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THE TERMINAL WOODLAND PERIOD AT SOUTHERN INDIAN LAKE, MANITOBA

DEPARTMENT OF CULTURE, HERITAGE AND RECREATION

1983

IMPORTANT

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13(1) No person shall excavate for historic or archaeological research or purposes or search for or excavate for artifacts, paleontological objects or skeletal remains without a valid subsisting permit to do so issued under the regulations.

Manitoba Historic Sites and Objects Act, S.M., 1966 - 67, c. 22, s. 1.

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(Filed February 29, 1980)

1. Any person wishing to conduct or carry out archaeological or paleontological field research in Manitoba shall first obtain a permit for the purpose from the Historic Resources Branch, Department of Cultural Affairs and Historical Resources.

2. An application for a permit to conduct or carry out archaeological or paleontological field research shall be made on Form 1 attached hereto.

3. There shall be a separate permit for each site or area at which archaeological or paleontological field research is to be carried out.

4. Each permit is subject to the special terms and conditions attached thereto or prescribed thereon.

THE TERMINAL WOODLAND PERIOD AT SOUTHERN INDIAN LAKE, MANITOBA

by

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ABSTRACT

This study focuses on the Terminal Woodland Period in the Southern Indian Lake region of northern Manitoba and attempts to explain, using an explicit and scientific methodology, the factors surrounding the restricted distribution of ceramic plates. In the process, a great deal of widely scattered archaeological data and information collected from the region during the period from 1965 to 1976 are evaluated and synthesized. As well, previous archaeological field studies undertaken by the author in the Leaf Rapids locality are described.

The hypothesis explored in this study states that the Southern Indian Lake region was occupied by a regionally distinct band society which was extant throughout the Terminal Woodland Period (A.D. 750-1650), was self-sufficient, and primarily endogamous. Using available archaeological, ecological and ethnographic data, the requisite conditions and logical consequences of the hypothesis are evaluated.

Conclusions point to an occupation by such a group. Persistence of the society through time is supported by relative environmental stability. Ceramic analyses indicate a regional cultural homogeneity which was maintained through peripheral physiographic obstacles, the loci of seasonally recurring dependable resources, and a high intra-regional mobility.

ERRATA

p. 9, 3rd line from bottom: "regional" should read "region"

p. 12, line 9: should read "56° 30' to 57° 41' N and 98° 00' to 99° 55' W"

p. 20, line 5: should read "... willows or aquatic vegetation"

p. 35, 3rd paragraph, line 1: "ppoint" should read "point"

p. 64, line 7: "HeLx-19" should read "HdLx-19"

p. 69, 4th line from bottom: "regional" should read "region"

p. 75, 4th paragraph, line 7: "kindship" should read "kinship"

p. 80, 1st line: "Montyagnais-Naskapi" should read "Montagnais-Naskapi"

p. 90, 7th entry: "Steinbring, J., et al" should read "Steinbring, J.H., J.P. Whelan, P.D. Elias and T.E.H. Jones"

p. 92, line 1: "L.F. Wasnick" should read "L.J. Wasnick"

p. 111, table, 9th entry: "HcLx-19 Various" should read "HcLx-1 Various"

p. 112, line 2, "FcLx-1" should read "HcLx-1"

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CHAPTER 1

INTRODUCTION

Background

The Southern Indian Lake region of northern Manitoba (Fig. 1) has been the object of archaeological investigations from the mid-1960s. At that time, J.V. Wright undertook archaeological field studies for the purpose of tracing the northern distribution of the Laurel Tradition (Wright 1971). Over the course of two field seasons, Wright recorded 32 sites of which four were test-excavated.

Although Wright was unsuccessful in obtaining significant quantities of Laurel ceramics, he did succeed in several other important aspects. First, using the journal of Captain James Knight, as an ethnohistorical source, he was able to demonstrate that Southern Indian Lake was occupied by Cree in A.D. 1717; by application of the direct historical approach, he was able to extend the probable range of occupation to between A.D. 900 and A.D. 1300 (Wright 1971).

In commenting on the nature of the Cree occupation of the region, Wright (1971:22) suggested that they represented a semi-nomadic population fully exploiting the local fauna — especially fish. More important, however, is his comment that a "widely distributed population such as Cree will possess a number of regional expressions" (1971:22). Although Wright did not pursue the notion of regional differentiation, he may have obtained the first evidence of it from his excavations. From at least one site he recovered sherds of a ceramic plate, a form not previously encountered in the Boreal Forest (see Wright 1971: Plate 11-4 and Figure 2, this report).

Following Wright's initial fieldwork, a somewhat more ambitious project was undertaken in the region in 1969. In anticipation of Manitoba

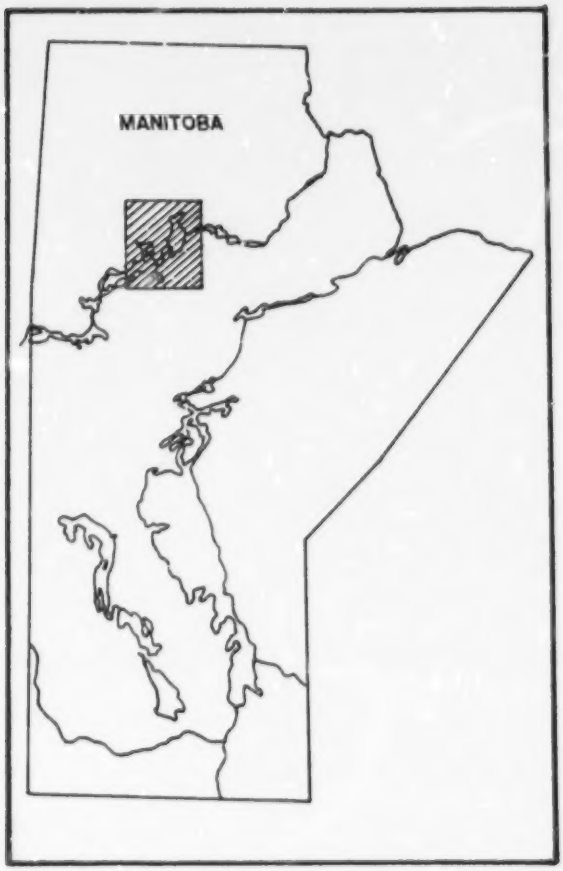


Fig. 1. Location of study area in Manitoba perspective.

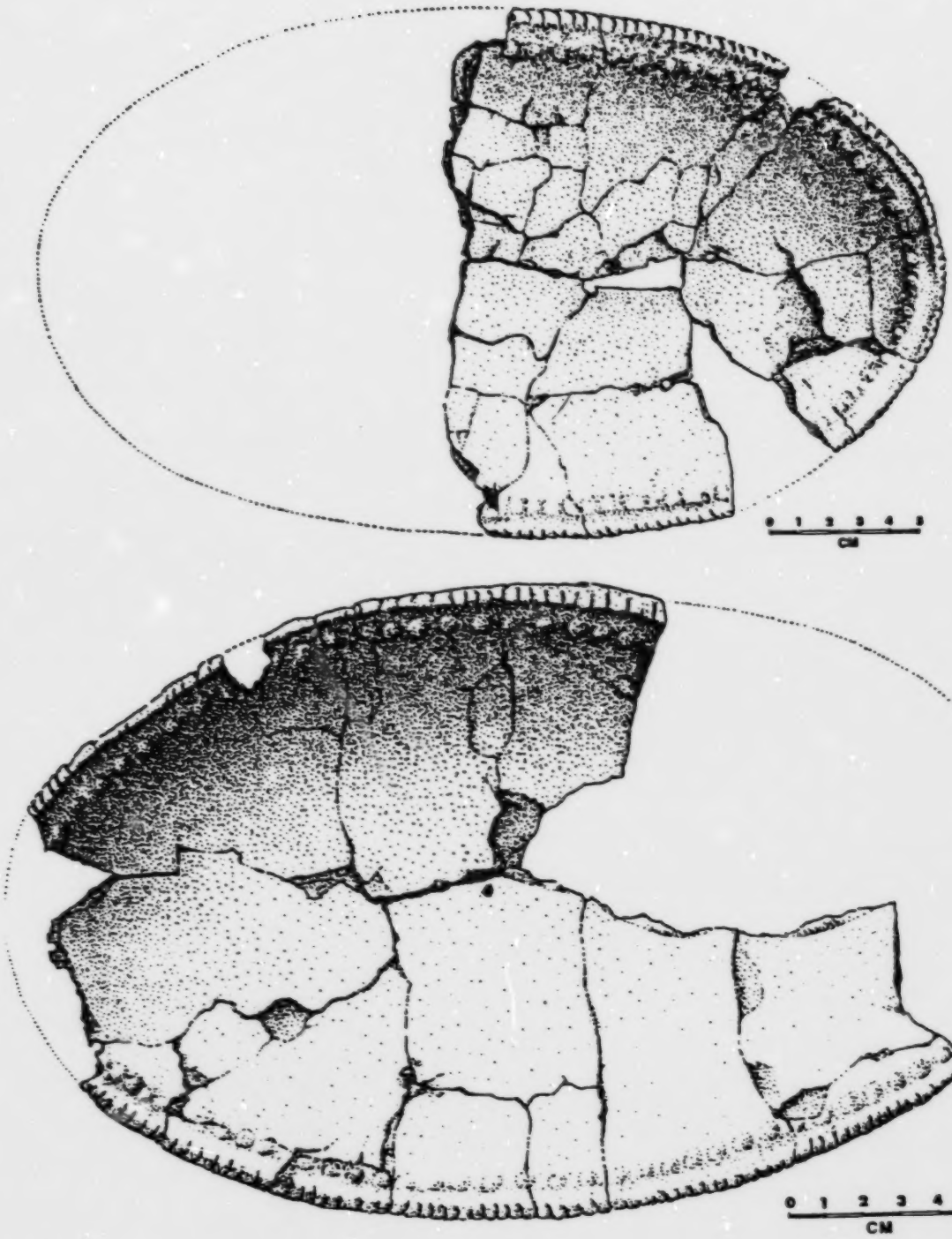


Fig. 2. Illustrations of two partially reconstructed ceramic plates.

Hydro's intention of developing Southern Indian Lake as a reservoir for hydro-electric purposes, relatively large-scale archaeological surveys were initiated by the Churchill Diversion Archaeological Project.

During the period 1969 through 1971, archaeological surveys resulted in 177 sites being recorded. The details concerning the sites, the nature of the surveys and the descriptions of the recoveries have been presented elsewhere (Dickson 1972). In writing about the ceramic recoveries from this survey, Wiersum and Riddle (1971) reported additional recoveries of the ceramic plates. From a collection of 194 vessel rim sherds, 30 were found to represent plates. The authors were led to conclude that "tentatively, at least, the form [plates] appears to have a restricted geographic distribution" (Wiersum and Riddle 1971:2).

In 1972, the emphasis of the Churchill Diversion Archaeological Project shifted to the excavation of selected sites in the study area, and although ceramic plates remained a curiosity, no specific effort was given to their study until 1974. By that time, sherds representing over 80 ceramic plates had been recovered from 22 sites. As well, further recognition of these vessels from other regions was not forthcoming. Throughout this time, there was a great deal of speculation as to the function of the plates; yet no formal study of them had been undertaken.

In 1974 the author, in association with L.J. Wasnick, began an analysis of the ceramic plates. The results of this work have been published (Wood and Wasnick 1976) and, therefore, are only summarized herein.

The vessels are elliptic and shallow with a depth of less that 4 cm, a width ranging between 12 and 20 cm, and a length of between 15 and 30 cm. The exterior surface of the plates is net- or fabric-impressed, usually with

smooth interiors. Punctates encircle the rim. The combination of decorative elements plus radiocarbon dates associated with plates (see Chapter 4, this report) demonstrate an exclusive association with the Terminal Woodland Period.

The ceramic plates should not be confused with the other vessel forms such as bowls and pots which co-occur with plates at Southern Indian Lake. Wright (1971:12) reports that Vessel 6 from the Neck Site (HfLq-1) is a "plate or very shallow bowl", while Vessel 8 from the MacBride Site (HeLw-1) is described as a "very shallow bowl that is nearly dish-like". Not having personally inspected these vessels, it is not possible for me to clarify his classification. However, a rule of thumb that may be helpful in distinguishing a plate from a bowl or pot is as follows: a plate circumference is more properly considered in terms of its length and width measurements, while pots, jars, and bowls have an orifice typically measured as a diameter. Also, plates are very shallow, with a maximum internal depth of four cm (for an additional discussion on various vessel forms see especially Bruckner [1968:230-231] and Dickson [1975:15]).

Through the process of ethnographic analogy (Wood and Wasnick 1976), it has been concluded that the plates served as fish oil lamps. Although a strong case with extensive supporting evidence was made for plates serving as lamps, Dickson feels that the "actual distribution and function of the vessels has not been determined" (1980:155). As concerns vessel function, the question may remain moot. However, to suggest that the spacio-temporal distribution has not been determined is to ignore the obvious. Their distribution has been well documented (Wood and Wasnick 1976:3). By Dickson's own observation, they still had not been recovered outside of the Southern Indian Lake region by 1980 (Dickson 1980:155).

The Hypotheses

Following Wright's suggestion that there may be regional expressions of Cree, it was felt that perhaps the restricted distribution of ceramic plates represented such a situation. Further, several authors have stated a relationship between material culture and the users of the material items. For example, Wobst (1974:vii) has suggested that the "degree of tool elaboration and the relative adherence to strict mental templates covary within the social context in which a given activity is carried-out". Rogers (1969:29) believes this may be true when he observes that discrete groups may show a tendency for cultural homogeneity expressed by minor diagnostic characteristics. J.B. Williams is much less equivocal in this regard in stating that all features of culture will come to show much greater variance between societies than within societies (Williams 1974:107).

From the above it can be hypothesized that the restricted distribution of ceramic plates represents the parameters of a discrete group of people. More formally, this can be stated as an hypothesis:

> During the Terminal Woodland Period (A.D. 750 - 1650)
> the Southern Indian Lake region of northern Manitoba
> was occupied by a discrete regional band society.

To provide an anthropological relevance to this study of a portion of the archaeological record as has been strongly advocated (cf Binford and Binford 1968; Longacre 1970; Wilmsen 1970), verification of this hypothesis is meant to suggest more than the existence of a technological or cultural tradition in strictly archaeological terms. The focus here is on the identification of a social grouping that was regionally discrete, economically self-sufficient, and primarily endogamous. In effect, the attempt in this study is to identify, as far as is possible archaeologically, a society as

defined by Aberle, et al. (1950:101) as a "group of human beings sharing a self-sufficient system of action which is capable of existing longer than the life span of an individual, the group being recruited at least in part by the sexual reproduction of the members".

On the surface, this would appear to approach the subject from a normative point of view, one which has been criticized for ignoring variability in subsystems (Binford 1965:204-206). However, the study of variation in subsystems is contingent upon the identification of internal structural differentiation and functional specificity. Prior to considering causes of change identified through diachronic component variation, the regularities of the system must first be recognized. The discovery of cultural systems reflected by material culture is based on identifying uniformities (patterns) which represent the operation of the subsystems synchronically. In other words, change of any sort cannot be understood without knowledge of the basis from which the change took place.

The significance in identifying the parameters of a society can be seen as being fundamental to the study of its subsystems and processes of change or stability. Further, it is applicable for purposes of simple comparison. For example, ethnographic comparison of rules of post-marital residence are always preceded, at least implicitly, with some knowledge of the context in which they operate. Likewise, archaeological explanations of culture change or stability in the prehistoric record must be subsumed within an explicit environmental and social context. It is the point of view adopted here that whether culture is defined as man's extrasomatic means of adaptation (White 1949), as socially transmitted behaviour (Aberle, et al. 1950:102), or simply as a lifeway (Jennings 1968:7), the context in which it occurs is the society (Levy 1952:22).

The identification of regional assemblage homogeneity at Southern Indian Lake does not constitute the identification of a society without additional support. As well, such identification says nothing about the culture of the society. Using the definition of society as an enduring self-sufficient system of action which is largely endogamous, an anthropological dimension is provided which is not simply derived from the restricted distribution of plates. While the restricted plate distribution data may in turn be used in support of the hypothesis, the resulting verification would be quite weak (LeBlanc 1973:202-203). At the outset, the environmental context of the society must be established such that it can be demonstrated that, in theory, a self-sufficient system of action is capable of existing through time within the region. Therefore, building support for the hypothesis is contingent upon an ecological examination of the region to deterine whether the region has resources sufficient to support a society operating at, in this case, the hunter-gatherer level of subsistence. Further, as the hypothesis implies an essentially unchanged society throughout the Terminal Woodland Period, the hypothesis is contingent upon a demonstrable environmental stability.

Logical consequences of the hypothesis, the test implications, must therefore be sought in two realms — the archaeological and the ethnographic. In general, through the acquisition of additional independent data it may be possible to strengthen the "discrete group - culture trait" notion. With respect to the social dimension, it must be shown that not only could the regional theoretically support a society, but that through ethnographic analogy such a society would logically be expected to have occupied the region. Additional support for the hypothesis can therefore be generated if:

1) The region has resources sufficient to support a society operating at the hunter-gatherer level of socio-cultural integration;

2) During the time period under study, no external pressures were present which would have required an adaptive response by the occupants of a magnitude that would have resulted in substantive socio-cultural change;

3) The region of Southern Indian Lake is more explicitly definable in terms of limiting social or physical criteria;

4) Additional material cultural traits are found in the Terminal Woodland Period regional assemblage which are unique and/or the assemblage demonstrates an internal stylistic homogeneity; and

5) Such a society could logically be expected to have occupied the region by examination through the use of ethnographic analogy.

Should one or more of the above conditions not be found, then alternative hypotheses would be supported. Alternatives and their implications include the following:

Alternative 1: The Southern Indian Lake region was occupied by more than one contemporaneous society, either permanently or seasonally.

Support for this hypothesis would be found if the material cultural remains showed a stylistic heterogeneity and the ecological and/or biophysical conditions were sufficient to support more than one society.

Alternative 2: The Southern Indian Lake region was occupied, diachronically, by more than one society during the Terminal Woodland Period.

This alternative suggests cultural change either by replacement of one society by another or by the original group's readapting to changing environmental conditions. Support for this alternative would be found if the

material cultural assemblage was stylistically or functionally heterogeneous and there was a demonstrably significant environmental change.

Alternative 3: The Southern Indian Lake region was occupied either permanently, seasonally or sporadically by a society or portion of a society whose home range was larger than, or extended beyond, the Southern Indian Lake region.

Support for this alternative hypothesis would be found if key material cultural traits characteristic of the Terminal Woodland Period at Southern Indian Lake extend beyond the region and/or it was found that the region had insufficient resources to support a band society (Chapters 3 through 7 consider each of the test implications as well as the alternatives).

Finally, the source of the Terminal Woodland Period ceramics recovered from the Southern Indian Lake region, with only minor exceptions, is assumed to be within the region, i.e., the people using the ceramics also manufactured them. As ceramic plates share a macroscopic similarity in every aspect but form with the ceramic assemblage as a whole, it is assumed that they too were produced locally. That they could have been traded into the region remains a theoretical possibility, and only microscopic thin-section analysis and clay source identification will demonstrate an absolute intra-regional production. However, the posibility of ceramic plates in the Southern Indian Lake region being a product of trade seems quite remote. Ceramic plates as trade items from an extra-regional source would result in their having a distribution much more widespread than the Southern Indian Lake region. Nevertheless, the possibility of ceramic plates as trade items will be given further consideration in Chapters 5 and 6.

CHAPTER 2

THE SETTING

The Southern Indian Lake region is located in northern Manitoba east of the community of Lynn Lake and north of Thompson (Fig. 1). Although "region" as used here should be taken to mean the general area, it does have a more specific referent in a strictly archaeological sense. For purposes of their archaeological studies, both Wright (1971) and Dickson (1972) considered the region under consideration to include Southern Indian Lake, Lake Opachuanau, the Churchill River from Leaf Rapids downstream to Lake Opachuanau and portions of the tributary creeks and rivers. This included the area from 56°31' to 56°41'N and 90°00' to 99°55'W, approximately 7000 km^2, including 2916 km of shoreline, or 3508 km of shoreline if the islands are included. Southern Indian Lake itself accounts for 1227 km^2 (Fig. 3).

The study area is located within the Precambrian Shield now characterized by low rounded rock hills with an average relief of 60 to 90 m. Primary exposures are coarse-grained prophyritic granites, granites and granite gneiss (Bellhouse 1969). The overburden consists of lacustrine clays, till or glacial fluvial deposits (Anonymous 1974).

The Churchill River drains 250,000 km^2 of the Precambrian Shield, 62,000 km^2 of which occur in Manitoba. The Churchill rises in east-central Alberta and flows east and northward across Saskatchewan, terminating at Hudson Bay. Initially, the river flows though a broad declivity in the Shield, but in northern Manitoba it drains through a series of local basins connected by narrow, swift spillways containing numerous rapids and falls (McInnes 1913:4). Southern Indian Lake is the largest lake (basin) on the Churchill system.

Fig. 3. Southern Indian Lake, showing Leaf Rapids Locality (shaded area).

Climatically, the Southern Indian Lake region is classed as cool to cold continental sub-humid. The mean annual temperature is -2.7°C with the average January temperature -30°C and the average July temperature 21°C (Weir 1960). There are approximately 80 frost-free days and 43 cm of annual precipitation, of which two thirds is rain (Anonymous 1974:8-3).

The region is located within the Northern Transitional Zone of the Boreal Forest and is characterized by a continuous coniferous forest. Tree line is approximately 400 km north of the region. Black spruce is the dominant tree species, although stands of white spruce are found on relatively well drained areas. On the driest sites, jackpine is found. Muskeg is quite prevalent, however, with sphagnum moss, feather mosses and Labrador tea constituting the typical ground cover. The quantitatively dominant plant species of the Northern Transition Zone are listed in Table 1. This listing, however, tends to mask the extensive diversity of the total floral assemblage. For example, Hanna (1975:65) lists a somewhat different assemblage associated with archaeological sites in the MacBride-Barrington River area west of Lake Opachuanau. During the course of the archaeological field studies conducted in the Leaf Rapids locality (see Chapter 5), over 90 different plant species were identified. Regional floral heterogeneity is controlled by succession following fire, local topography, activities of man (including selective harvesting of trees) and possibly seed dispersion at archaeological sites and modern camps.

The principal mammals in the Southern Indian Lake region are listed in Table 2. Absent from this list is woodland caribou (Rangifer tarandus caribou). Hanna (1974:10) notes that woodland caribou are indigenous to mature coniferous forests, although recent wildlife studies conducted in the region (Webb 1974) do not list them as being present. As archaeological finds

TABLE 1

KEY SPECIES OF THE NORTHERN TRANSITION ZONE

KIND	COMMON NAME	SPECIFIC NAME
Tree	Black spruce	Picea mariana
	White spruce	Picea glauca
	Jack pine	Pinus banksiana
	Tamarack	Larix laricina
	White birch	Betula papyrifera
Shrub	Dwarf birch	Betula glandulosa
	Willow	Salix myrtillifolia
	Willow	Salix arctica
	Baked appleberry	Rubus chamaemorus
	Crowberry	Empetrum hermaphroditum
	Rock cranberry	Vaccinium vitis-idaea
	Wild rosemary	Andromeda polifolia
Grass	Tufted bog-cotton	Eriophorum angustifolium
	Cotton grass	Eriophorum spissum
	Sedge	Carex spp.
	Rush	Juncus albescens
Fern	Water-horsetail	Equisetum fluviatile
Moss	Sphagnum	Sphagnum fuscum
	Sphagnum	Sphagnum recurvum
	Moss	Drepanocladus spp.
	Moss	Cinclidium arcticum
Lichen	Reindeer moss	Cladonia alpestris
	Reindeer moss	Cladonia rangiferina
	Lichen	Stereocaulon paschale
	Lichen	Icmadophila ericetorum
Forb	False asphodel	Tolieldia pusilla

FROM: Beke, et al. (1973: Table V)

of caribou remains from the region are identified only as caribou in the generic sense (Dickson 1980; Hanna 1975; Appendix 7, this report), the question is moot although additional consideration as to the significance of the issue will be presented in a following section.

TABLE 2

Economically Significant Mammals -
Southern Indian Lake Region

Moose	Alces alces
Barren-ground caribou	Rangifer tarandus
Beaver	Castor canadensis
Lynx	Lynx lynx
Mink	Mustela vison
Muskrat	Ondatra zibethicus
Otter	Lontra canadensis
Fox	Vulpes spp.
Pine martin	Martes americana
Red squirrel	Tamiasciurus hudsonicus
Wolf	Canis lupus
Wolverine	Gulo luscus
Black bear	Ursus americanus americanus
Porcupine	Erethizon dorsatum
Hare	Lupus americanus

(From: Webb 1974:26-34)

Waterfowl use the Southern Indian Lake region mainly as a staging area, although some species do breed at the lake (Webb 1974:38). In general, they do not form a major component of the regional faunal population. Species that have been observed in the region are listed in Table 3. In addition, three species of gulls and two species of terns were also observed in the region in 1974 (Webb 1974:50)

Fish resources in Southern Indian Lake and adjacent lakes and rivers constitute a significant faunal component in the region. Twenty-two species are currently found (Table 4). Present historically, but rarely if ever caught in the region today, was sturgeon (Acipenser fluvescens) (Rostlund 1952:10).

At this point, it should be emphasized that the preceding descriptions and species listings are intended only to illustrate the general physical and biological composition of the region. The relative availability of the plant and animal resources, their distribution and cultural significance will be considered in following sections.

TABLE 3

Waterfowl - Southern Indian Lake Region

Whistling swan	Scaup sp.
Canada goose	Merganser sp.
Green-winged teal	Surf scoter
Mallard	White-winged scoter
Pintail	Scoter sp.
American widgeon	Diver sp.
Dabbler sp.	Duck sp.
Common goldeneye	Common Loon
Ring-necked duck	Black duck

(From: Webb 1974: Table 8)

TABLE 4

Fish Species in the Southern Indian Lake Region

Lake whitefish	*Coregonus clupeaformis*
Cisco	*Coregonus artedii*
Longnose sucker	*Catostomus catostomus*
White sucker	*Catostomus commersoni*
Yellow walleye	*Stizostedion vitreum vitreum*
Sauger	*Stizostedion canadense*
Yellow perch	*Perca fluviatilis*
Northern pike	*Esox lucius*
Burbot	*Lota lota*
Goldeye	*Hiodon alosoides*
Spot-tail shiner	*Notropis hudsonius*
Ninespine stickleback	*Pungitius pungitius*
Slimy sculpin	*Cottus cognatus*
Iowa darter	*Etheostoma exile*
Trout-perch	*Percopsis omiscomaycus*
Spoonhead sculpin	*Cottus ricei*
Brook stickleback	*Culaea inconstans*
Longnose dace	*Rhinichythys cataractae*
Lake chub	*Couesius plumbeus*
Johnny darter	*Etheostoma nigrum*
Logperch	*Percina caprodes*
Fathead minnow	*Pimephales promelas*

(From: Ayles and Koshinsky 1974:15)

CHAPTER 3

RESOURCES AND SUBSISTENCE

This chapter considers the region in terms of the resources available to support a regional band. In general, the resources considered are selected on the basis of the archaeological record in the Southern Indian Lake region. This selection criterion is based on the notion that the fauna and flora of a region become resources only when used. A list of the available plant and animal resources has been presented in Chapter 2.

The intent with Implication I is to demonstrate that, in theory, a self-sufficient system of hunter-gatherers could exist and persist in the Southern Indian Lake region. It is not the intent to suggest, however, that the system was closed, independent of all outside contact, influence or exchange. Regularized means of exchange (trade) is an adaptive response often no less important than direct resource exploitation.

The following discussion considers each major resource class principally in terms of availability. In Chapter 7, the cultural consequences of the use of the resource will be examined.

Fauna

The species identified from the analysis of faunal remains recovered from the Southern Indian Lake region are listed in Table 5.

Moose

The available information on the relative density of moose in the Southern Indian Lake region is somewhat confusing. For example, from recent aerial surveys, Webb (1974:26-29) estimated 0.6 moose per square mile and considered this to represent a low relative density due to the severity of the local habitat. On the other hand, an average moose density continentally was

reported as 0.33 moose per square mile (Peterson 1955). Regardless of the relative abundance or paucity the contemporary density may not accurately reflect prehistoric densities when specific habitats are considered.

In the spring and summer, moose will typically be found at lakes or streams subsisting on willows of aquatic vegetation. In winter, they tend to move inland somewhat where woody plants make up the majority of the diet (Peterson 1955). As Southern Indian Lake is primarily composed of a dense coniferous forest, suitable winter habitats are two- to three-year-old burn areas where willows and young deciduous growth make up mixed-wood stands (Webb 1974:26-29). The recently introduced (to the region) concepts of fire prevention and active suppression may have tended to reduce the amount of critical winter moose habitat. Natural fires left unchecked or controlled burning may have provided much more winter habitat prehistorically.

In terms of their habits, moose tend to roam solitarily although it is not uncommon for them to yard (four - 12 animals) in winter when snow depths exceed 75 cm. At this time during these conditions, they will move to areas of relatively less snow accumulation — areas exposed to wind and somewhat open.

Caribou

It is not known whether woodland caribou were at any time resident in the Southern Indian Lake region. Faunal analysis of caribou remains from the region have not distinguished between woodland and barren-ground species. Responses to queries of local residents concerning caribou in the region usually imply the barren-ground variety. Recent wildlife studies in the region do not consider the woodland caribou. Based on this somewhat tenuous negative evidence, the following discussion assumes that woodland caribou were not a resident species.

TABLE 5

FAUNAL SPECIES RECOVERED FROM EXCAVATED SOUTHERN INDIAN LAKE REGION SITES

Large Mammals	Medium Mammals	Fish	Birds
Moose	Beaver	Whitefish	Swan
Caribou	Muskrat	Walleye	Goose
Black bear	Otter	Northern pike	Duck
Bison	Red fox	Sucker	Corvidae
	Hare		Loon
	Red squirrel		Hawk/eagle
	Arctic fox		
	Martin		
	Porcupine		
	Fisher		

(From: Dickson [1980], Hanna [1975] and Appendix 7)

The last contemporary sighting of barren-ground caribou in the Southern Indian Lake region was in the early 1950s. However, historically, and presumably prehistorically, Southern Indian Lake was an area through which the Kaminuriak herd migrated to their wintering range. The herds would enter the region at the northeast end sometime in late October/early November, pass down the lake and proceed to Reindeer Lake located on the Manitoba-Saskatchewan boundary. Typically, however, not all animals entering the Southern Indian Lake region would leave as large sub-herds sometimes remained (Webb 1974:26-29).

While in their winter range the herds tended to remain coalesced and restricted in their movements (Kelsall 1968:132-133). Through November to January or February caribou may have been found in relatively high densities - up to seven or eight animals per square mile. The presence of caribou during the winter would certainly make it a much less precarious time for the

regional residents. Unfortunately, caribou movements are extremely erratic and it is quite likely that there were many winters when the migration route excluded the Southern Indian Lake region (Burch 1972:355; Kelsall 1968:132-134).

With regard to caribou as a resource, there are four conditions which may have prevailed during the winter months in the region: (1) the caribou migration route excluded the region; (2) the caribou migrated through the region in November and February; (3) caribou migrated through the region with several sub-herds residing throughout the winter; (4) the herd consisting of perhaps 45,000 animals remained in the region throughout the winter.

Other Large Mammals

Black bear, but not grizzlies, were and continue to be resident at Southern Indian Lake. Generally a solitary creature, females have a 16-km range radius while males will wander further. During winter, both sexes will den (Caras 1967:56). Because bears can be found just about anywhere, securing one was probably opportunistic.

The occurrence of bison remains at Southern Indian Lake is an anomaly. Only five teeth have been recovered and, based on their stratigraphic position, a date of 1550 B.C. is suggested (Dickson 1980:34). No cultural remains were associated with the bison teeth and their presence in the region remains a mystery.

Medium Mammals

In this class, beaver and muskrat occurred with the highest frequency. Both species are very common in the region today although of the two, muskrats are seen more frequently (Webb 1974:31). Beaver would be available along the smaller tributary streams somewhat inland from the lake in areas of deciduous

growth. Muskrats, while preferring marsh areas, will be found in bays and other areas of calm water. Both species occur in commercial quantities today, i.e., they are actively trapped in the region.

Waterfowl

Waterfowl do not form a significant proportion of the resident faunal population. However, the region does have some significance as a staging area and there is some nesting habitat for Canada geese. As a staging area, 16 species use the lake as a rest stop during migrations, with the greatest concentration occurring in the spring (Webb 1974:41).

During the summer of 1974, 0.33 breeding pairs were found per linear mile of shoreline, totalling approximately 1400 birds. This is compared with the fall staging when 2500 birds were on the lake. While small numbers of ducks, loons and geese are resident during the summer, primary waterfowl availability is during the spring and fall.

Fish

Southern Indian Lake has been classed as an atypical Shield lake because of a high density of mineral constituents, a constant circulation of nutrients, and high levels of dissolved oxygen. These conditions, combined with the relatively warm summer water temperatures, result in a high biological productivity. The average dry weight of plankton in Southern Indian Lake is two to three times greater than that of other Shield lakes, as is the density of bottom-dwelling invertebrates (Hecky and Ayles 1974). The net effect is a lake region with a highly productive fishery. Added to this is Rostlund's statement that, all other things being equal, production (of fish) is a function of surface area rather than total volume (1952:46). Thus, the high nutrient loading and large surface area combine to make Southern Indian an exceptional Shield lake.

Within the lake, the most common species are whitefish, walleye and northern pike. It is not surprising, therefore, that these are also the most commonly identified species found in regional archaeological sites.

In terms of the commercial fishery at Southern Indian Lake, Ayles and Koshinsky have noted that the extensive use of gill nets and other intensive harvesting techniques do not overly exploit the resource (1974:27). From this it is assumed that less intensive prehistoric fishing did not significantly deplete the quantity or affect the quality of fish.

Throughout most of the year, whitefish inhabit the lake in poorly defined schools representing an almost random distribution. However, in the fall, with a very high degree of predictability, whitefish move to the northeast end of the lake to begin spawning. Spawning areas are those with coarse rocky bottoms 1.5 to 6.75 m deep.

Walleye, on the other hand, remain in discrete schools throughout the year and return each spring (May/June) to the same place. Walleye spawn at the first set of rapids above the lake on tributary streams (Weagle and Baxter 1973:55). Eight such spawning locales have so far been identified. From one such locale 431 fish were taken by two people in a 48-hour period using nets (Weagle and Baxter 1973:57).

Finally, although not identified archaeologically, Ayles and Koshinsky (1974:13) note the possibility that sturgeon may have been present in significant numbers. Rostlund (1952) cited historical evidence indicating sturgeon were once (but are no longer) common throughout the Shield. Had they been present at Southern Indian Lake, this 4.5 to 7 kilogram (average; 106 kilogram sturgeon have been caught) fish, when considered with whitefish and walleye, would have made Southern Indian Lake remarkable in terms of the fish

yield potential. That they have not been identified from Southern Indian Lake sites may be explained in terms of their skeletal structure. Unlike whitefish, for example, sturgeon have a cartilagenous skeleton. When the fish are boiled everything is consumable except two small boney plates in the head and the ganoid scales (Steinbring 1965:10). It is therefore possible that large quantities of strugeon were consumed prehistorically with the few remains lost to the highly acidic regional soils. Steinbring (1965:9) does note however, that sturgeon "plates" were found by Dr. Mayer-Oakes in all levels of the Tailrace Site at Grand Rapids in northern Manitoba.

Floral Resources

The only archaeological evidence of utilized plant resources at Southern Indian Lake was the recovery of pincherry seeds from the MacBride Site (Hanna 1975:23), and any discussion of the utilization of the regional floral resources is fairly speculative. Steinbring has pointed out, however, that plant species decrease (in variety) in northern latitudes, and as a consequence, decreased variability is compensated somewhat by an increase in habitat knowledge (Steinbring 1965:4).

In the upper Great Lakes, Yarnell found that between 400 and 500 plant species were used for purposes of food, beverages and flavouring, medicinal purposes, ceremonial purposes, smoking, dyes and various utilitarian purposes (Yarnell 1964). In the Leaf Rapids locality, 13 plant species were identified as edible (Appendix 8), pointing to a large number of edible species in a small area. For the region as a whole, Shay (1980) has identified 60 edible plants or plant by-products.

Lithics

Lithic raw materials recovered from archaeological sites in the region by Dickson (1980), Hanna (1975) and Wood (Appendices 1-4, this report)

consist primarily of cherts (65%), quartz (26%) and basalt/groundmass (9%). Of these, quartz is a basic mineral in the Canadian Shield and is found virtually anywhere there is an exposed bedrock outcrop (Cranstone 1972; Thomas 1972). As virtually every lithic tool type recovered from the region was manufactured from quartz, it is theoretically possible that lithic self-sufficiency could have been based entirely on this source.

There was an overwhelming preference for chert; however, other than the usually small pebble cherts/chert nodules found in gravels along beaches, a local quarry source has not been found. Given the nature of the local surficial and bedrock geology, a local quarry source would not be expected. Extensive quantities of chert were available along the Hudson Bay Lowlands and in the limestone beds along the Nelson River (Dana 1949). Whether this material was acquired directly or via trade is not known. The occurrence of Knife River Flint at Southern Indian Lake most likely indicates some trade in lithics. Finally, basalt is found locally throughout the region (Cranstone 1972; Thomas 1972).

Ceramic Production

The raw materials used in the production of the ceramics at Southern Indian Lake are available within the region. The basic ingredients of clay, water and temper (Shepard 1971:49-94) are all available in quantity. Of course, water was virtually everywhere. Temper, added to reduce shrinkage as the clay dried, consisted of crushed granite. The specific source of the clay used, if there was one, has not been located. However, there are numerous clay beaches in the region and if this material was suitable then its acquisition posed no difficulties. If specific sources were required, several-hundred-pound loads could have been collected and transported using canoes or

rafts. During the actual time of vessel manufacture, the potter required sunshine, warmth, and a relatively low atmospheric humidity (Arnold 1976:97) which would be available throughout the late spring, summer and early fall.

Summary

This by no means exhausts the resource potential of the region, nor is it meant to list all of the resources used. Canoes required a sealant — at Southern Indian Lake probably the pitch from black spruce. Porcupine quills were used in decoration and as needles, beaver incisors as gravers, babiche for fish nets, and so forth. However, it is believed that the cited resources are those which had a great deal of cultural significance and influenced, in a fundamental way, human population density, social organization and scheduling.

Concerning the faunal resources, fish appear to be the primary constant in the regional ecosystem. They were available in unfailingly large quantities with a high degree of spacio-temporal predictability. Fish harvesting was also relatively simple.

Finally, there is the potential for one other resource at Southern Indian Lake. Wild rice, gathered throughout southeastern Manitoba, may have been traded into Southern Indian Lake in exchange for caribou or ornamental/decorative works. If significant quantities were imported, a much more secure winter regional subsistence could be predicted. Although there is at present no direct evidence suggesting the use of rice, the presence of non-indigenous ceramics usually associated with southern groups may indirectly reflect a rice trade, i.e., it was the contents of the vessels that was traded rather than the vessels themselves.

CHAPTER 4

CULTURAL AND ENVIRONMENTAL STABILITY

The hypothesis states that there was an identifiable society in the Southern Indian Lake region for approximately 900 years and that the society was relatively unchanged throughout the Terminal Woodland Period.

The stability of the society through time, i.e., the lack of culture change, is both demonstrable and predictable. It is demonstrable simply in terms of radiocarbon dates from the region which relate to the Terminal Woodland Period sites/Clearwater Lake Punctate ceramics (Table 6).

TABLE 6

Terminal Woodland C-14 Dates,
Southern Indian Lake Region

Date	Source
AD 760	Wright 1971:10
AD 940	Dickson 1980:18
AD 1190	Wright 1971:10
AD 1220	Wright 1971:10
AD 1245	Wright 1971:10
AD 1300	Dickson 1980:18
AD 1330	Dickson 1980:18
AD 1490	Hanna 1975:28
AD 1515	Wright 1971:10
AD 1590	Wright 1971:3
AD 1610	Dickson 1980:18

The dates indicate a time range spanning almost 900 years. In considering the initial date of the Terminal Woodland Period, Dickson (1980:152) has averaged the first two dates and suggests a date of A.D. 850 as "reasonable". Wright (1971:10) rejected his A.D. 760 date in favour of the A.D. 1220 date (Table 6). Wright's dates were the first to come from the region and he may have simply felt more comfortable with the conservative

estimate. With the later addition of two dates preceding A.D. 1220, however, there is little doubt now that Wright was being too conservative. Why Dickson has opted for averaging the two early dates is unclear. Without other mitigating evidence, the A.D. 760 date should be accepted, and is taken, in this study, to mark the beginning of the period of occupation by the Southern Indian Lake Cree.

The persistence of this occupation through time is evidenced by dates that mark consecutive passings of the centuries until A.D. 1610. The terminal date of A.D. 1650 is somewhat arbitrary but probably closely approximates the time at which rather sweeping cultural changes began in the region.

The first recorded instance of Europeans at Southern Indian Lake is that of Peter Fidler, who passed through the region in 1807 (Fidler 1807). However, at that time he reported the operation of a Canadian House "several years back". Wright (1971:20), citing the journal of Captain James Knight, notes the presence of Southern Indian Lake Cree at Fort Prince of Wales (Fort Churchill) in 1717, so there is little doubt that by that time new technologies were at least known in the Southern Indian Lake region. The influence of a European presence and the fur trade system probably extended back to at least the 1670-1680 period when the Hudson's Bay Company established posts on Hudson Bay (Ray 1974:11). It is not unreasonable to assume a date of 1650 as marking the point of major economic change and the end of 900 years of cultural stability.

The 900 years of cultural continuity at Southern Indian Lake is reflected in the archaeological record of the region. Until the Historic Period, ceramic variability is not detectable, the lithic tools are descriptively similar throughout the period and the settlement pattern appears as a predictable constant (Hanna 1974).

That regional cultural stability can be predicted is based on the Principle of Cultural Stability which suggests that a culture at rest tends to remain at rest (Sahlins and Service 1970:54-58). From this perspective, culture is viewed as representing a specialized adaptation to a given set of environmental conditions where the rate of cultural change is determined by the rate and nature of environmental change. Therefore, demonstration of relative environmental stability would tend to predict cultural stability when the environment is taken to include both the human and physical realm.

Physical Environment

Until 8200-8500 B.P., the Southern Indian Lake region was buried beneath the Laurentide ice having a maximum thickness of perhaps 3000 m (Bryson and Wendland 1967:10). As the ice retreated from the region, meltwaters formed a pro-glacial lake which Elson (1967:39) believes was separate from Lake Agassiz while others (Anonymous 1974:224) consider it to have represented the northern extent of Lake Agassiz. Suffice it to say that the pro-glacial lake in the Southern Indian Lake region was at least contemporaneous with Lake Agassiz and was extant until approximately 7700 B.P. (Ringrose 1975). This, then, would represent the probable date of earliest possible human occupation in the region.

Ringrose (1975:10) has also indicated that it was a climatic condition similar to that experienced today in the region which caused the retreat of the ice. Palynological evidence further suggests that the predominant spruce forest characterizing the region today moved into the region as quickly as the surface conditions were suitable (Bryson and Wendland 1967:291; Nichols 1967:185).

Until approximately 3450 B.P., the forest border was likely about two degrees north of the present tree-line, with subsequent fluctuations both north and south taking place in response to macro-climatic changes (Bryson and Wendland 1967:291-296). In general, however, the vegetational assemblage at Southern Indian Lake was probably relatively little changed throughout prehistory, as its position central to the Boreal Forest would not have experienced tundra or grassland encroachments (Nichols 1967:190).

With specific reference to the time period under consideration, approximately A.D. 750-1650, its beginnings are coincident with a period (A.D. 550-1250) of relatively favourable climate. The summer position of the Arctic front shifted poleward, with a subsequent 100 km northward expansion of continuous tree cover. In the Southern Indian Lake region during this period, the conditions were drier and warmer, with a possible lower lake level and significantly greater exposure of shoreline beaches (Nichols 1967:192). Beginning sometime between A.D. 1300 (Nichols 1967:193) and A.D. 1550 (Syms 1976:96), a generalized period of climatic deterioration occurred as a result of the southward movement of the Arctic airmass. This provided cooler summers and a retreat of the northern forest border. These conditions prevailed until about A.D. 1850.

The effects of the climatic changes through time were most noticeable in ecotones and agriculturally marginal regions. In the Southern Indian Lake region and the central Boreal Forest, the climatic variations since the Atlantic Episode are much less noticeable, as the area is less sensitive to climatic and vegetational changes (Nichols 1967:190). Therefore, the climatic changes which had such pronounced effects to the north of the Southern Indian Lake region (see Gordon 1975) should be viewed as only minor perturbations of the present climatic distribution in the region (Bryson and Wendland 1967:192).

The consequences of the southward extension of the Arctic front in the Southern Indian Lake region are difficult to predict. The postulated southward movement of the forest border may have caused a retraction of barren-ground caribou calving grounds closer to the tree-line (Gordon 1975:62). However, as the tree-line was never closer than about 300 km to the north, this probably had little consequence at Southern Indian Lake. Although the cooler temperatures would tend to prolong winters which were already quite severe, offsetting this is evidence from a coring program indicating that the Southern Indian Lake waters had a somewhat higher biological productivity 500 years ago (A.D. 1450) (Hecky 1974:24). Therefore, while some climatic deterioration may have been experienced, an as yet unexplained increase in the lacustrine biological productivity may have tended to act as compensation -- in effect, increased productivity may have mitigated the increased climatic severity. In any event, the concensus seems to be one of little substantive change since the beginning of the Neo-Atlantic in either absolute or relative terms, allowing two significant conclusions to be drawn: first, throughout the Terminal Woodland Period the evidence suggests an environment of relative stability rather than one of substantive change. Critical subsistence resources would have likewise remained as relative constants. Second, a reconstruction of the modern environment (Chapter 2) is generally applicable to the Terminal Woodland Period.

Human Environment

At the end of the Terminal Woodland Period, cultural change was a response to a radical change in the regional human environment. Preceding this time there is no indication at Southern Indian Lake of significant cultural responses to the human environment. The presence of non-indigenous

ceramics is attributed to trade, representing the movement of goods rather than the prolonged residence by a distinct "ethnic group" or culture.

Projectile points associated with the Late Taltheilei Tradition, A.D. 800-1750 (Gordon 1977:Table 1), occur sporadically at several Southern Indian Lake sites (Dickson 1980:98). Unlike pottery, their presence in the region does suggest the occupation, or at least use, of the Southern Indian Lake region by non-indigenous people as opposed to trade. The absolute quantity of these points is low, however, and given the low regional population density, it is entirely possible that Late Taltheilei peoples never encountered the Southern Indian Lake Cree.

In summary, throughout the Terminal Woodland Period at Southern Indian Lake, the residents obviously had a successful adaptation to the environment in which they lived. Social pressures were almost non-existant and, with only minor perturbations, the physical environment was unchanging. Readaptation to changing circumstances was therefore unnecessary.

CHAPTER 5

THE SOUTHERN INDIAN LAKE REGION

The Southern Indian Lake region has been so far defined as an artificial construct based primarily on the impacts resulting from reservoir development and archaeological convenience. To this point, a region has been imposed on the archaeological data as opposed to the archaeological data and related information defining the region. It is unreasonable to expect that an occupation of the Southern Indian Lake region would have been coincident with the planning requirements of Manitoba Hydro. At this point, the distribution of ceramic plates, coincident with the collected and excavated archaeological sites, is the primary feature indicating the spacial parameters of the regional occupants.

However, the precision gained by a distributional plot of ceramic plates may not be that great. For example, ceramic plates used as oil lamps may indicate the extent of their use in winter which may not correlate with the actual distribution of people during other seasons. Also, task-specific groups, say a hunting partnership, may have gone beyond the functional context of plates — the base camp for example. Therefore, the hypothesis will have greater strength if the Southern Indian Lake region is definable in terms of limiting social and/or physical criteria. Further, the more precise the knowledge of the actual distribution of plates, the more precise will be the knowledge of the extent of the social context in which they were used.

With respect to this latter ppoint, the author undertook field studies in 1975 designed, in part, to address this question. Specifically, it was thought that if ceramic plates were a trait unique to a regional band at Southern Indian Lake, it would be expected that, as one approached the fringes

of the region, the frequency of plate recovery would gradually decrease. The point at which plate frequency recovery reached zero would then be taken to represent the approximate regional extent of the society. As ceramic plates, as a form, constitute 40% of the Terminal Woodland/Clearwater Lake Punctate ceramics at Southern Indian Lake (Wood and Wasnick 1976:1), a frequency below this in leaving the region would be taken as a partial verification of the hypothesis, the strength of which would increase as the frequency decreased.

The field work undertaken for this study was conducted in the Leaf Rapids locality (Fig. 4) in 1975. Although assignment of the area as a locality was initially arbitrary (Dickson 1972:21), it does define a natural riverine zone, with 105 km of shoreline bounded on the southwest by a major rapids (Leaf Rapids) and on the northeast by Lake Opachuanau. The Churchill River, as it traverses the locality, is also the only major riverine environment to be examined in conjunction with the Southern Indian Lake study. The Leaf Rapids locality was also considered a "fringe" area relative to the Southern Indian Lake region, as no information was available as to whether plates occurred in the locality.

1975 Field Study - Leaf Rapids Locality

Introduction

The first archaeological investigations along this section of the Churchill River were conducted in 1969. At that time, the emphasis was largely one of reconnaissance focusing on the recording of exposed artifacts on beaches. During the course of that investigation, 46 sites were recorded (Dickson 1972:56-73) and, with one exception, they were represented by a very few artifacts thinly and widely scattered on beaches. The exception was a site subsequently designated HcLx-1, constituting the portage around Leaf Rapids (Fig. 5).

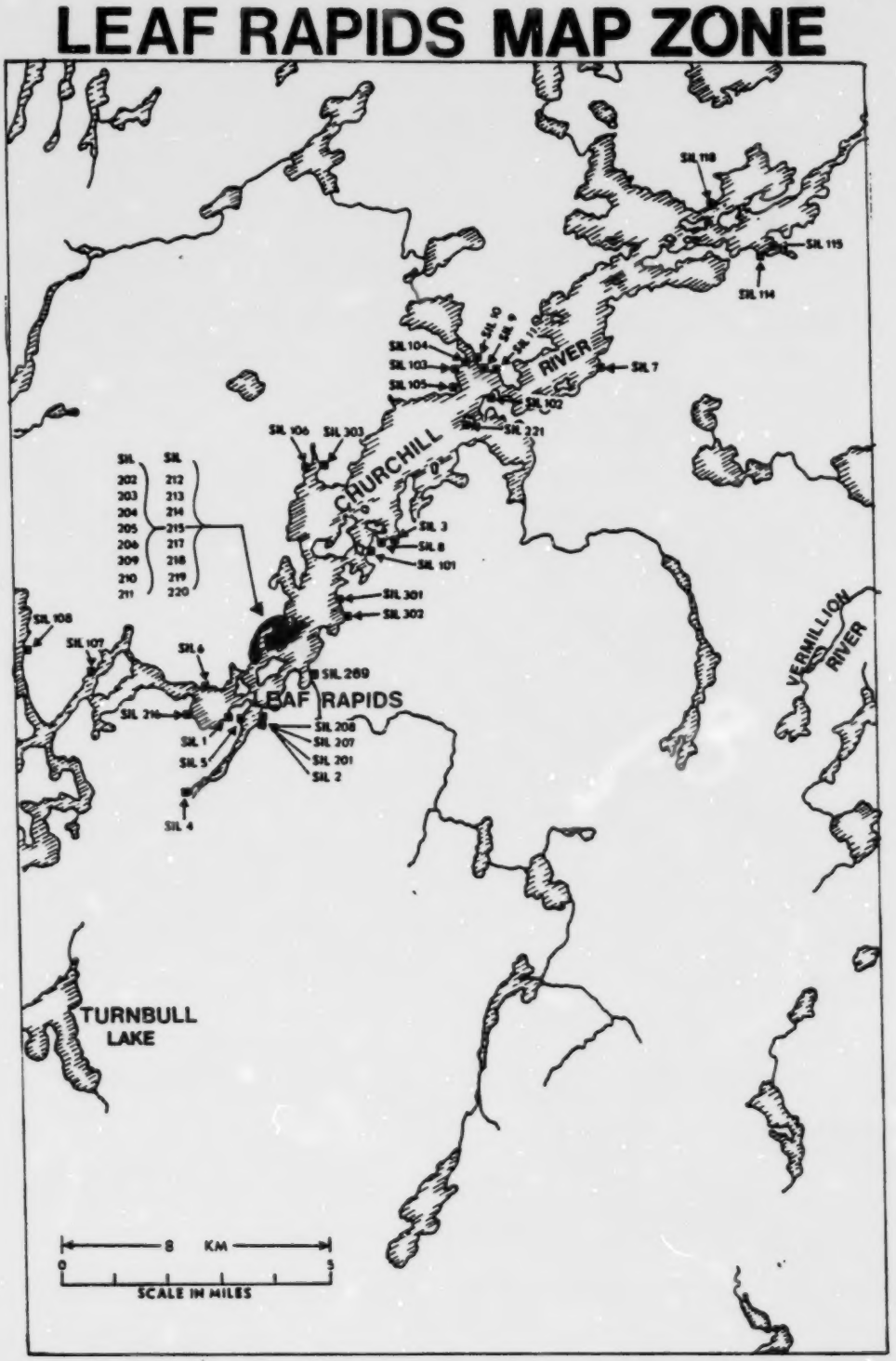


Fig. 4. Early map depicting archaeological site distribution in the Leaf Rapids Locality, including HcLx-1 (SIL 1,5) and HdLx-19 (SIL 269).

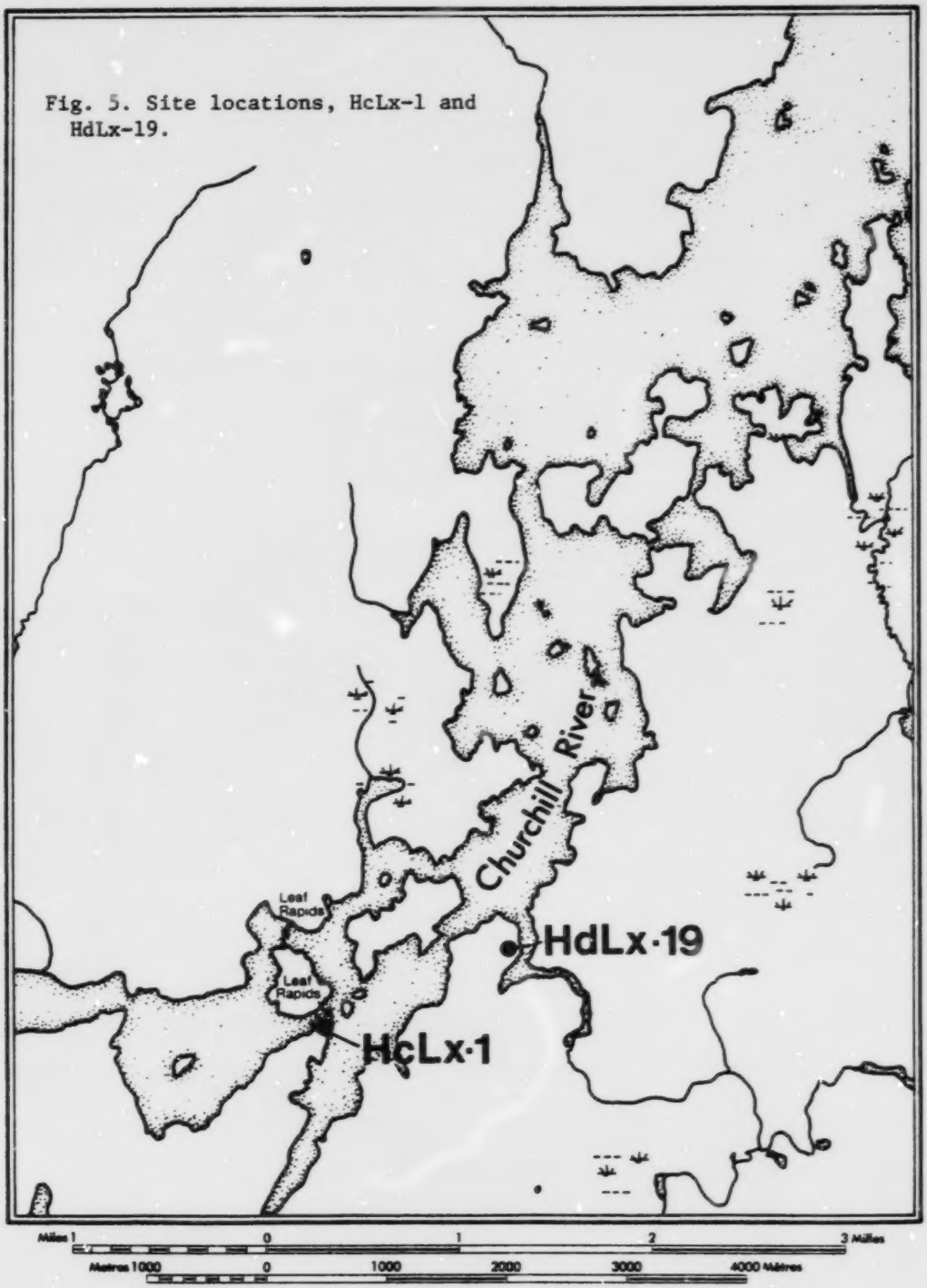


Fig. 5. Site locations, HcLx-1 and HdLx-19.

In 1969, some testing and surface-collecting was undertaken at HcLx-1 with a resultant report that the site was possibly stratified and contained Middle Prehistoric Period projectile points.

Survey

At the outset in 1975, we were faced with the problem of having a large number of sites for which virtually no information existed beyond basic locational data and observations on their surficial composition (Table 7). A priority then was given to reinvestigating these sites, an activity pursued throughout the course of the summer.

In general, two or three field personnel would proceed via canoe and first attempt to relocate the original "find spot". Once a site was relocated, the terrace above the beach was systematically shovel-tested in an effort to locate buried cultural remains. The intent during the survey was primarily in terms of assessment, i.e., whether the substance of the site was more than the eroded surface scatter.

Survey Results

The results of the survey tended to verify the earlier interpretations. That is, the sites in the Leaf Rapids locality are generally small beach surface scatters representing very transitory Terminal Woodland Period occupations/camps.

Table 8 is a revision of Table 7 in light of the survey results. With the exception of the portage, all sites can be presumed to be currently under water as a result of reservoir construction.

In addition to those previously recorded sites, four new sites were discovered: HdLx-19, reported on in this section, and three recent Historic camps (Wood 1975:7).

TABLE 7

Leaf Rapids Locality Sites - 1969 Data

Site No.	Type	Site No.	Type
HcLx-1	Portage	HdLx-11	Pictograph
HcLx-2	Small camp	HdLx-12	Pictograph
HcLx-3	Isolated find	HdLx-13	Surface scatter
HcLx-4	Buried camp	HdLx-14	Surface scatter
HcLx-5	Portage	HdLx-15	Surface scatter
HcLx-6	Surface scatter	HdLx-16	Surface scatter
HcLx-7	Surface scatter	HdLx-17	Surface scatter
HcLx-8	Surface scatter	HdLx-18	Surface scatter
HcLx-9	Small camp	HdLx-19	Surface scatter
HdLw-1	Surface scatter	HdLx-20	Surface scatter
HdLw-2	Surface scatter	HdLx-21	Surface scatter
HdLw-3	Surface scatter	HdLx-22	Surface scatter
HdLw-4	Surface scatter	HdLx-23	Surface scatter
HdLx-1	Surface scatter	HdLx-24	Surface scatter
HdLx-2	Surface scatter	HdLx-25	Surface scatter
HdLx-3	Surface scatter	HdLx-26	Surface scatter
HdLx-4	Surface scatter	HdLx-27	Surface scatter
HdLx-5	Surface scatter	HdLx-28	Surface scatter
HdLx-6	Surface scatter	HdLx-29	Surface scatter
HdLx-7	Surface scatter	HdLx-30	Surface scatter
HdLx-8	Surface scatter	HdLx-31	Quartz quarry
HdLx-9	Surface scatter	HdMa-1	Surface scatter
HdLx-10	Pictograph	HdMa-2	Surface scatter

TABLE 8

Leaf Rapids Locality - Post 1975

Site No.	Status and Comments
HcLx-1	Excavated - Reported herein
HcLx-2	Excavated - See Wood 1975:8
HcLx-3	Tested - See Wood 1975:8
HcLx-4	Destroyed by bridge construction in 1971
HcLx-5	Number deleted - entire portage now HcLx-1
HcLx-6	Could not relocate
HcLx-7	Could not relocate
HcLx-8	Could not relocate
HcLx-9	Destroyed by bridge construction in 1971
HdLw-1	No change
HdLw-2	No change
HdLw-3	No change
HdLw-4	No change
HdLx-1	Could not relocate
HdLx-2	Could not relocate
HdLx-3	Could not relocate
HdLx-4	No change
HdLx-5	No change
HdLx-6	Could not relocate
HdLx-7	Could not relocate
HdLx-8	Could not relocate
HdLx-9	Could not relocate
HdLx-10	Reported and described in Steinbring, et al. 1969
HdLx-11	Reported and described in Steinbring, et al. 1969
HdLx-12	Reported and described in Steinbring, et al. 1969
HdLx-13	No change
HdLx-14	No change
HdLx-15	No change
HdLx-16	No change
HdLx-17	No change
HdLx-18	No change
HdLx-19	Original site deleted-number reassigned to a site reported herein
HdLx-20	No change
HdLx-21	No change
HdLx-22	No change
HdLx-23	No change
HdLx-24	No change
HdLx-25	No change
HdLx-26	No change
HdLx-27	No change
HdLx-28	No change
HdLx-29	Could not relocate
HdLx-30	Could not relocate
HdLx-31	Reported in Wright (1971)
HdMa-1	Not relocated
HdMa-2	Not relocated

Forty-three sites were identified in the Leaf Rapids locality. Of these, three (7%) are pictographs, 36 (84%) are small beach surface scatters, two (5%) are recent Historic camps, one (2%) is a portage and one (2%) is a buried multiple-component camp. The surface materials recovered relate primarily to the Historic fur trade era and to the Terminal Woodland Period. At several sites (16%), including HcLx-1 and HdLx-19, Historic and Terminal Woodland materials were found in spacial association.

Excavation HcLx-1 (Leaf Rapids Portage)

HcLx-1 is the portage located on the south side of Leaf Rapids (Fig. 5). The portage itself is approximately 96 m long with the site occurring along the entire length of the trail to a distance of at least 20 m on either side (Plate 1).

Although the west side of the portage has a bedrock shore, canoe landing and access have been facilitated by the placement of logs serving as a sort of ramp over the rocks (Plate 2). The east side of the portage (the downstream side) has a mud and sand beach.

In general, the site was covered with deciduous growth, although large conifers grow in the central site area (a complete listing of the floral assemblage found on the site is presented in Appendix 8). The portage was clearly in evidence, as a well used trail up to 2 m wide traversed the length of the site.

The Leaf Rapids portage is one of the few points of access to or egress from the Southern Indian Lake region for people using traditional modes of transportation regardless of the season (much of the rapids remain open throughout the winter). One major assumption with respect to the excavation of the portage was that the rapids could not be run in open boats or canoes.

Plate 1. Portage and site area, HcLx-1.

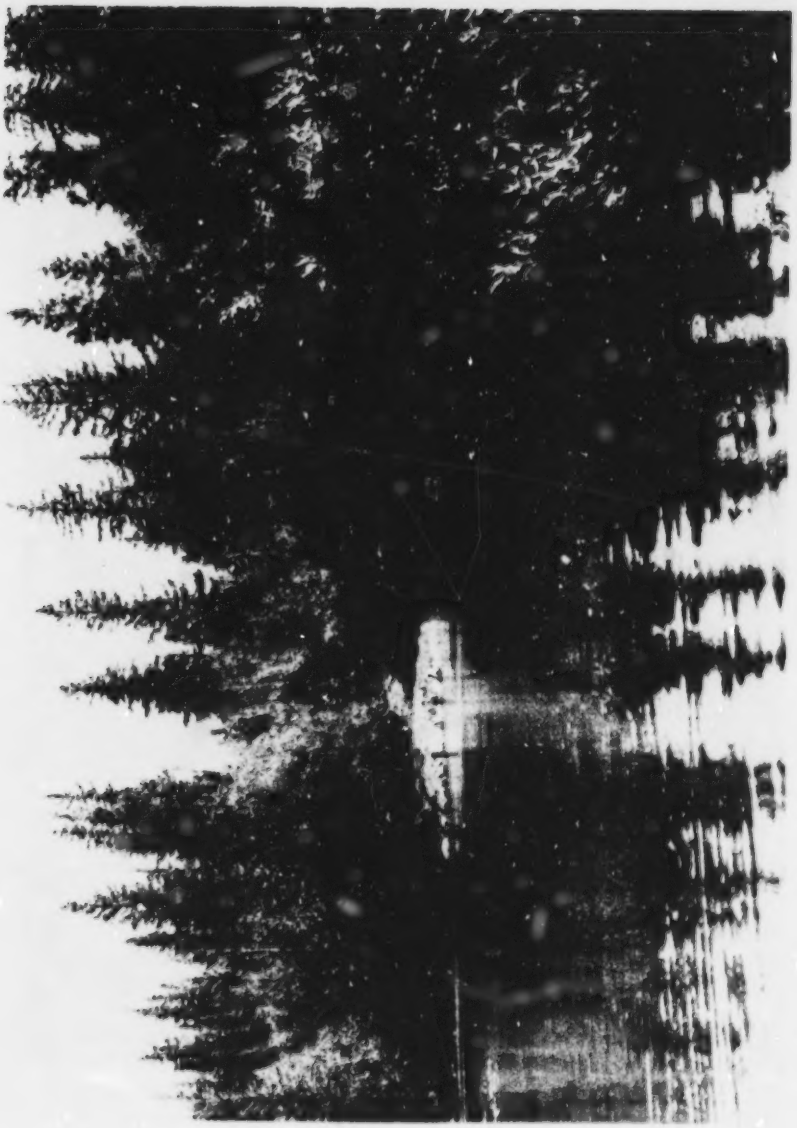


Plate 2. West side and landing at HcLx-1.

In other words, it was assumed that, first, people travelling this stretch of the Churchill River would have to portage. Second, because literally everyone travelling here throughout prehistory would have used the portage, the site would provide, archaeologically, a very condensed view of the regional prehistory and history.

There are two alternatives to using the portage, however. Watercraft could have been lined either up or down the river (Davidson and Rugge 1976:153-156) or the rapids could have been run. Concerning the former alternative, a portion of the rapids forms what almost would be described as a falls with a drop of almost 2.5 m (Plate 3). Bordering this drop is a shoreline composed of massive granite boulders. It is difficult to conceive of this section being lined given the availability of a relatively short level portage. As concerns running the rapids, the several deaths occurring as a result of people attempting this is a mute testimonial to their severity.

Evidence of the existence of the portage historically is found on a map prepared by Peter Fidler on which he notes a portage at the approximate location of Leaf Rapids. He referred to it as either 80' Teed or Weed Portage.

With regards to the nature of the rapids historically and prehistorically, there is a possibility that it may have been more severe due to the process of isostatic rebound. For example, the Pleistocene ice load in the Hudson Bay vicinity, an area of crustal weakness, was such that its extreme downward pressure significantly depressed the surrounding land (Kupsch 1967). Following the retreat of the ice, a process of post-glacial isostatic rebounding occurred. The initial uplift was thought to have been quite rapid, as much as 7 m per century (Pelletier, et al. 1968:566-567), with a subsequent decrease to between 73 cm and 3 m per century (Inns, et al. 1968:722). The

Plate 3. A portion of the falls at Leaf Rapids as seen from the east.

implication of this isostatic rebound for Leaf Rapids may be in terms of its gradually reducing the gradient of the Churchill River, backfilling Southern Indian Lake and Lake Opachuanau, and ultimately reducing the severity of the gradient at Leaf Rapids. However, acting in opposition to the possible reducing gradient is downcutting by the river through time. Although this relationship has not been studied, it is assumed that Leaf Rapids has been to some degree a physiographic reality through time.

In summary, it was believed that the excavation of the Leaf Rapids portage site would provide data relevant to the rate of human movement through the region and information as to who (in an archaeological context) the people were.

To sample this fairly long and somewhat narrow site (3840 m^2), three approximately equal arbitrary sampling strata were selected with 2 x 2 m excavation units randomly selected within each strata. Such a stratified sample "yields a better estimate of the overall population mean than simple random samples collected over the surface without regard to strata, because the variability in each sampling stratum is taken into account" (Krumbein 1965:143).

The strata were identified as A, B and C consecutively from east to west. Two-by-two m excavation units were placed in each stratum (Fig. 6). As warranted by the results, additional contiguous units were excavated as well. AT the same time, exploratory units were excavated in periphery areas. A total of 108 m^2 was excavated.

The excavation technique was meticulous, using trowels, dental picks, root clippers and grapefruit knives. As a unit was opened, a 10 cm balk was left around the unit walls. If the unit or area proved productive, the balk

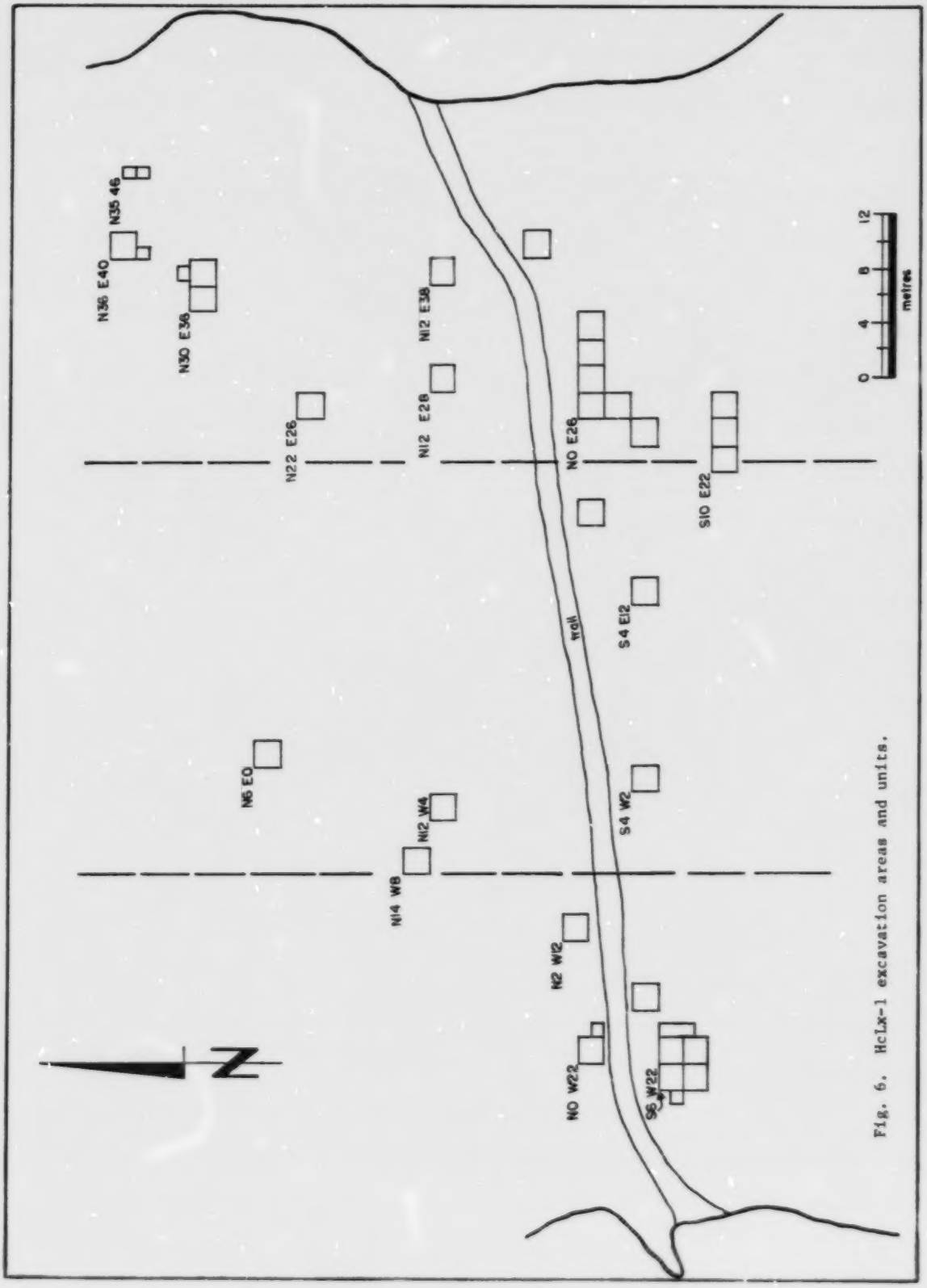


Fig. 6. HcLx-1 excavation areas and units.

was removed. Levels were either 2 cm arbitrary or natural with the surface as Level 1, the moss/humus zone as Level 2, and the humus/clay transition as Level 3 (Plate 4).

The surface of the site was littered with a relatively dense concentration of modern debris, which was systematically collected. Modern activities were also sources of disturbance at the site in the form of numerous excavated fire pits. Other disturbance factors were tree roots, rodent burrows and extensive frost-heaves.

The results of these excavations combined with the small tests conducted in 1969 are summarized. Five projectile points were recovered representing, based on diagnostic traits, the Middle and Terminal Woodland periods (Appendix 1). Several hundred ceramic sherds were recovered although only seven vessels could be identified. Of these, two were Laurel, recovered from the far west end of the portage, three have been classed as Clearwater Lake Punctate, and the two others were Terminal Woodland but could not be assigned to a specific ware or type (Appendix 5). None of the ceramics represented plates. Other tools included three bifaces (Appendix 2), seven scrapers (Appendix 3), and 18 unifaces (Appendix 4).

Hearths were fairly numerous and varied from orange stains to concentrations of charcoal. From one hearth in Area A a charcoal sample was sent for radiocarbon assay. The hearth was relatively deep (20 cm) and the Middle Prehistoric Period material was recovered in the same vicinity, causing an expectation for an early date. However, the radiocarbon date for this feature is 160 $\pm$ 90 B.P., A.D. 1790 (Gak-6056) and represents the Historic Period.

Historic material recovered from the portage is discussed in Appendix 6. The species descriptions of the faunal material are given in Appendix 7.

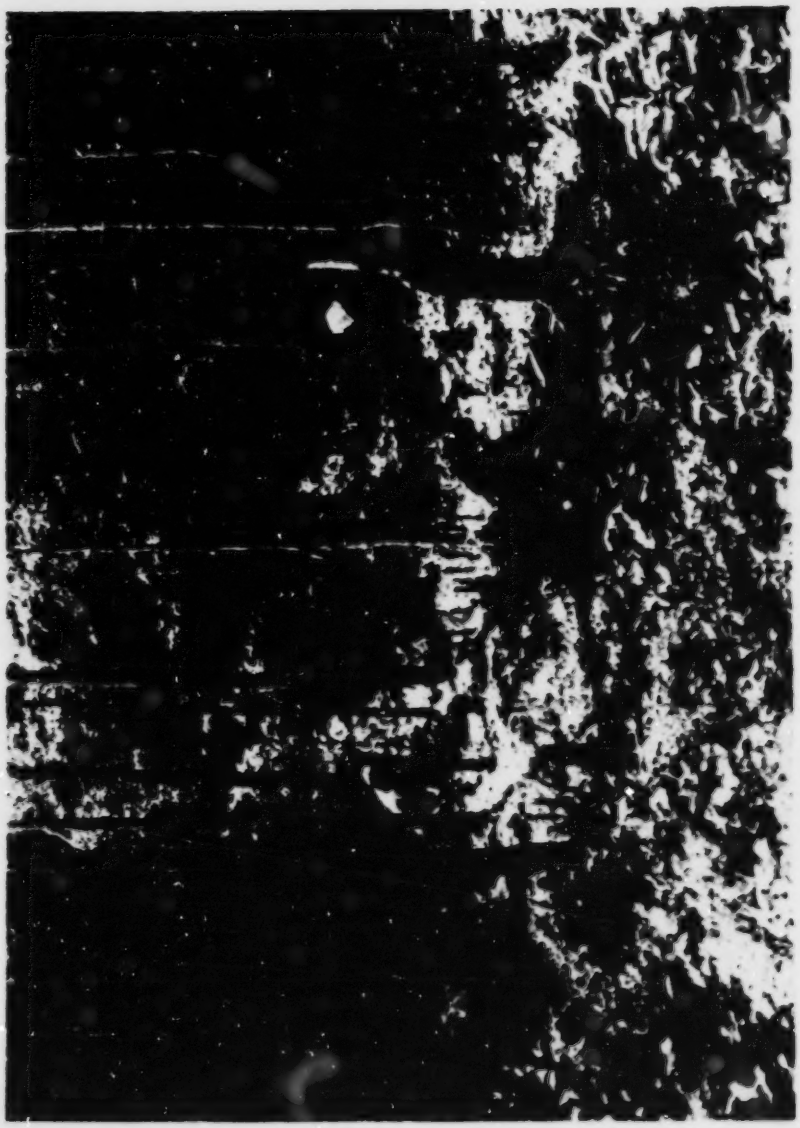


Plate 4. On-going excavations at HcLx-1.

The distribution of the prehistoric material tended to cluster at either end of the portage trail while the fur trade era artifacts were primarily recovered from the central portion (Area B).

Excavation HdLx-19

HdLx-19 was recorded during the 1975 surveys. It occupies a small point near the mouth of a narrow bay on the right bank of the Churchill River downstream from the first narrows below Leaf Rapids (Fig. 5; Plate 5). The size of the site is 22 m N/S by 18 m E/W (Plate 6).

When the site was discovered, a stone tent ring, similar to a tipi ring, with a central hearth was found partially exposed on the surface. Two bifaces were recovered in a single arbitrarily-placed shovel test.

The motivation to conduct excavations at HdLx-19 was largely exploratory in nature. As this was the only site other than the portage in the Leaf Rapids locality with apparently intact buried deposits, excavations were undertaken to examine its structure and contents. The excavations were conducted in much the same manner as at HcLx-1. In the end, a total of nine 2 x 2 m^2 units were excavated (Fig. 7; Plate 7).

The results of the excavation indicated first that the tent ring was modern. The associated central rock lined hearth was interspersed with aluminum foil. That the modern component represented a hunting camp was evidenced by large quantities of recent moose bone, much of which was shattered and burned.

The presence of Laurel and Clearwater Lake Punctate ceramics indicated two additional components. A total of six vessels were represented in the excavations, of which at least one was Laurel, one was Clearwater Lake Punctate, and four were unclassified Late Prehistoric wares (Appendix 5). No

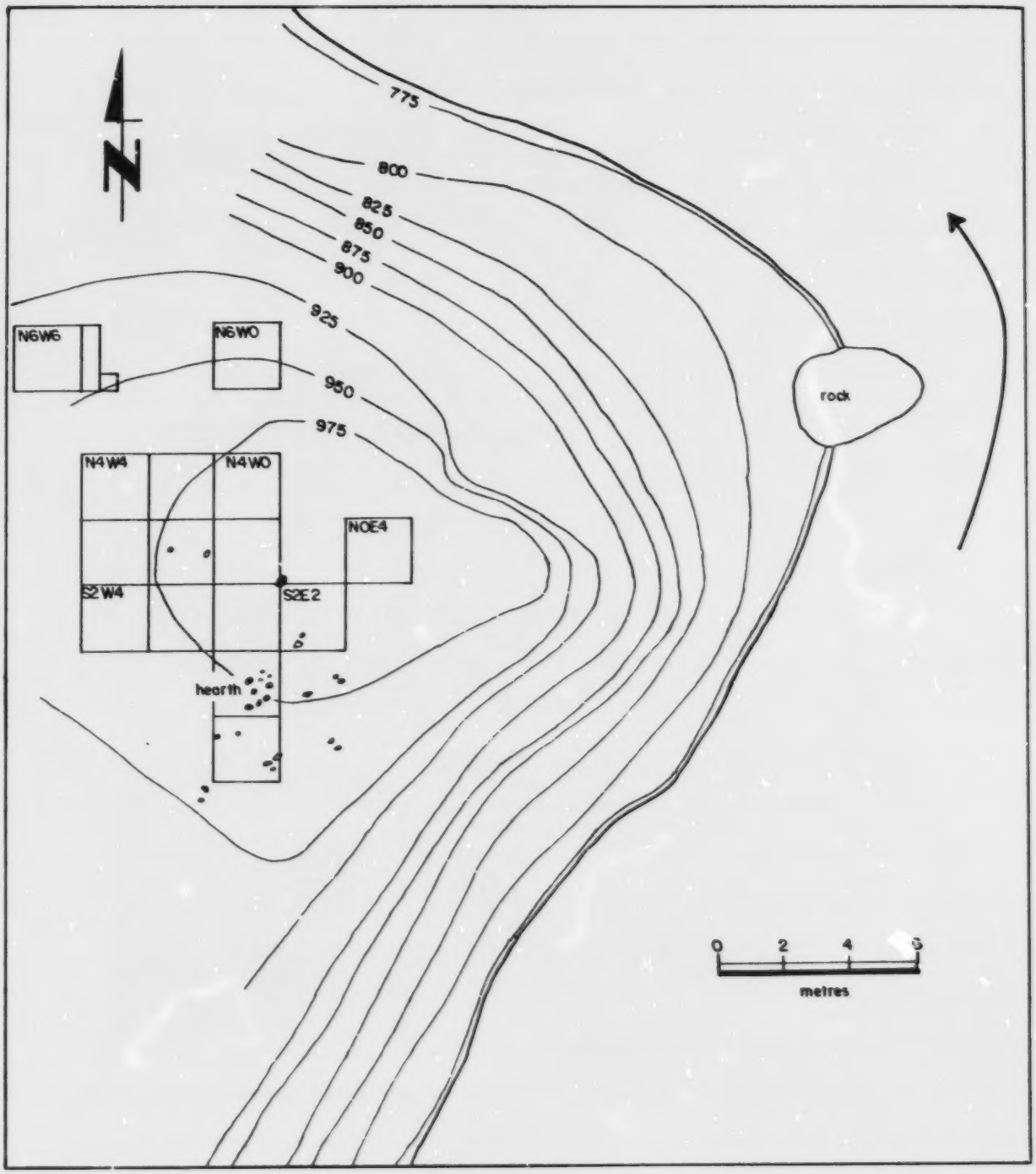


Fig. 7. General layout of HdLx-19. Contour interval is 25 feet.

Plate 5. View from the northeast of HdLx-19, the point on the right.

Plate 6. Surface area of HdLx-19.

Plate 7. On-going excavations at HdLx-19.

projectile points or scrapers were recovered. Other lithic tools were represented, however, with the recovery of three bifaces (Appendix 2) and three retouched flakes (Appendix 4). Bone tools consisted of four awls or punches (Plate 8) and one split long bone which had distal retouch. Historic materials were not well represented (Appendix 6).

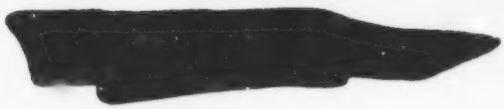
Discussion

The portage site, HcLx-1, was used since the Middle Prehistoric Period as evidenced by the recovery in 1969 of projectile points diagnostic of that time. However, the intensity of use does not appear to be great, as materials of any single time period were only lightly represented, and taken as a whole the excavations indicated only sporadic use of the site.

Some differential use of the portage is indicated, as the prehistoric materials tended to cluster at the ends of the trail while Historic (fur trade era) artifacts were more concentrated at the central site area. That artifacts were recovered at the ends of the portage is expected, as it is at this point in using the portage that items are most prone to loss and breakage. People are getting in and out of canoes, possessions are being moved and passed from person to person, and some equipment is being repacked. That Historic items are more in evidence at the middle of the site may indicate that the site historically was used as a rest stop and repair station. Regardless, the portage does not seem to have been intensively used.

The intensity of use may also have been differential with more traffic during the early Historic Period. A number of the surface sites along the Churchill River in the Leaf Rapids locality contained both items of Native and European manufacture. Rather than these items representing multi-component sites, it is possible that they represent single uses during the Proto- or

A



B

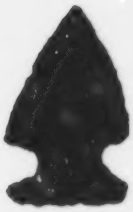
C

Plate 8. Bone Tools. A. HdLx-19:695; B. HdLx-19:698; C. HdLx-19:697. (Scale 1:1).

Plate 9: Lithic Tools

A.	HcLx-1:243	Projectile Point
B.	HcLx-1:300	Projectile Point
C.	HcLx-1:556	Biface
D.	HdLx-19:990	Biface
E.	HdLx-19:419	Biface
F.	HcLx-1:(SIL 5) 29	Uniface
G.	HcLx-1:269	Scraper
H.	HdLx-19:2	Biface
I.	HdLx-19:725	Uniface

(Scale 1:1)



A

B

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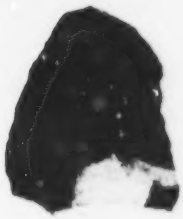

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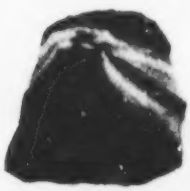

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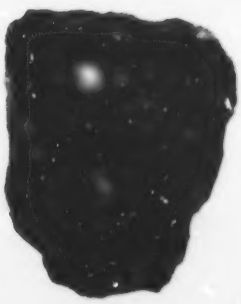


H

I

Plate 10: Ceramics

A. HcLx-1 Vessel 6

B. HcLx-1 Vessel 3

C. HdLx-19 Vessel 1

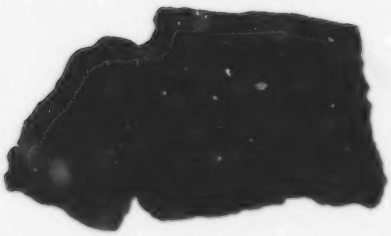
D. HdLx-19 Vessel 4

E. HcLx-1 Vessel 1

(Scale 1:1)

A

B



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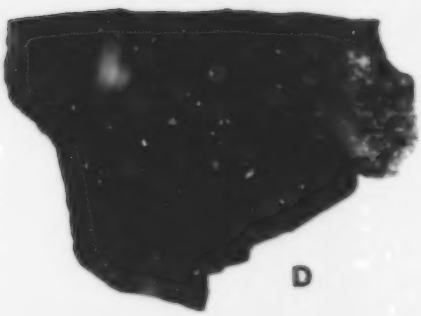

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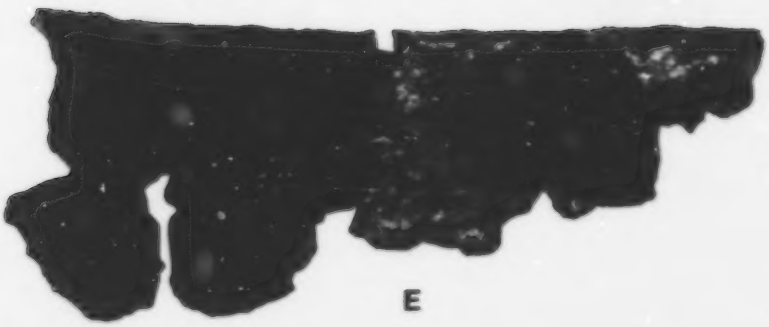

E

Plate 11. Historic Artifacts. A. HdLx-19:283 Fork; B. HcLx-1: (SIL-5) 50 Bead; C. HcLx-1:503 Canoe awl. (Scale 1:1).

early Historic Period. Trading posts were established to the west of the Southern Indian Lake region much earlier than in the region, and these sites may represent the movement of the regional residents to and from those posts. A bead recovered from HcLx-1 (Appendix 6, HcLx-1:50) is identical to one recovered from excavations at Francois House on the Saskatchewan River in Saskatchewan (Kehoe 1978:153-f).

It is possible that a portage other than the excavated area at HcLx-1 was used either historically or prehistorically, although there is no evidence to indicate this. To the south of the portage trail, the land rises very steeply, precluding use of that area. Shovel-testing to the north of the trail out along the peninsula was unproductive. Further, the opposite side (north) of the rapids was surveyed with negative results.

The survey results along the Churchill River in the Leaf Rapids locality indicated that the sites represented very short-term use areas more indicative of wayside stops rather than prolonged seasonal occupations or areas of repeated use. Excavations at HdLx-19, while indicating a site with some internal structure and repeated use, tends to support rather than negate this notion. The lack of projectile points and scrapers, combined with the relative abundance of bone awls and adze fragments, suggests activities more typical of repair, maintenance and manufacture rather than hunting and processing. The small quantities of prehistoric faunal material similarly support this interpretation.

In general, then, the Leaf Rapids locality is viewed as an area used as a travel corridor with a low velocity of traffic prehistorically but with a marked increase during the Historic Period. The majority of the sites represent simple wayside or overnight camps. The increased density of sites

in the vicinity of the portage indicates that people preferred to use the portage as a necessary convenience, but, not wishing to remain for too long a time so as to avoid surprise encounters with others travelling the route, proceeded short distances up or down stream to favourable nearby areas. If equipment maintenance or repairs necessitated an overnight or prolonged stay, then more care was taken in selecting an area that afforded shelter and access to resources, as was the case at HeLx-19.

That the Leaf Rapids locality did not figure significantly in the Southern Indian Lake regional settlement and subsistence system may simply have been a function of the river itself. Although it is relatively easy to proceed downstream towards Southern Indian Lake once over the portage at Leaf Rapids, it was a much more difficult proposition going upstream. Two stretches of very fast water along the river between Lake Opachuanau and Leaf Rapids make travelling upstream a very slow and tedious process. Probably quite simply, until the establishment of fur trade posts to the west of the region, there was little reason to make the somewhat arduous journey up the Churchill on a regular basis.

From the results of the archaeological investigations in the Leaf Rapids locality then, the western extent of the Southern Indian Lake region can be redefined to terminate at the west end of Lake Opachuanau.

As for defining the remainder of the region, existing information can be used. For example, archaeological studies throughout the area north of Southern Indian Lake produced no ceramic materials and, in general, assemblages represented the probable antecedents of the Chippewyan (Nash 1975). As these studies began at localities along the Seal River, the Southern Indian Lake region can be defined as including the northern watershed

lakes and rivers of Southern Indian Lake and the Churchill River, and excluding those of the Seal River drainage.

To the east, a boundary is more difficult to define simply because of the lack of fieldwork. Fieldwork at the mouth of the Churchill River at Hudson Bay did not produce Terminal Woodland artifacts (Nash 1970) nor did surveys along the western margin of the Hudson Bay Lowlands south of the Churchill River (Wood, Trott and Pettipas 1976). However, the archaeological record from above Missi Falls, the Churchill River egress from Southern Indian Lake to the Hudson Bay is unknown. Eric R. Morse (personal communication, 1977) does suggest, however, that the Churchill River through this section of Manitoba is very difficult to traverse because of numerous rapids and falls. For this reason it was avoided in favour of the Nelson River by Europeans participating in the fur trade. Assuming that the same philosophy prevailed prehistorically, a tentative boundary is constructed at the north end of Southern Indian Lake.

Archaeological studies conducted to the south of Southern Indian Lake in the region of the Rat and Burntwood Rivers produced Terminal Woodland ceramics at several sites, although only two rims representing plates have been recorded (Wiersum 1972). It appears that this area was occupied most intensively during the Middle Woodland Period, with Terminal Woodland sites representing short-term transient camps (Wiersum and Tisdale 1977:142).

With the area south of Southern Indian Lake as one that was travelled through but apparently not occupied on a permanent or seasonal basis, the settlement and subsistence system operating at Southern Indian Lake during the Terminal Woodland Period does not extend into this area. The approximate southern boundary of the region can be taken to be more or less coincident with the southern shore of the lake (Fig. 3).

At this point, a region has been defined based on the empirical archaeological evidence. To the west and east, physical barriers, while not preventing movement, probably tended to restrict it. The presence of a different society, indeed an entirely different "ethnic group", would have precluded expansion to the north. To the south, the situation is less clear although if Wiersum and Tisdale's assessment of the area is correct it would appear the land south of Southern Indian Lake did not constitute one of intensive occupation.

CHAPTER 6

STYLISTICS

Additional support for the hypothesis will be derived if other morphologically unique artifacts occur in the region and/or the collection of artifacts from the region associated with the Terminal Woodland Period has an internal (to the region) stylistic homogeneity.

The occurrence of the unique vessel form is considered quite an exceptional circumstance and would not be expected to occur with much frequency. Typically, variation is much more subtle. Why there happens to be this unique form at Southern Indian Lake is discussed in terms of a diffusionary process vis à vis the geographic position of Southern Indian Lake and its occupants (Wood and Wasnick 1976:7). In any event, the results of excavations in the region by Dickson (1975, 1980), Hanna (1975), Kelly (1982), and Wood (Chapter 5, this report) have not produced other such distinctions. Dickson's assessment that Type I hearths are a defining characteristic of the Kame Hills Complex at the north end of Southern Indian Lake is not applicable to this study, as Type I hearths were constructed from the Archaic Period through the Historic Period. Further, with the most consistent characteristic of Type I hearths being the presence of burnt bone fragments, this is too diffuse a criterion upon which to base a complex as the term is commonly used (Dickson 1980).

Stylistic homogeneity as an indication of shared culture appears present in the ceramic technology of the Terminal Woodland Period at Southern Indian Lake. In his statistical analysis of the ceramics, Kelly (1978) attempted to produce an unbiased classification scheme delineating natural groupings as opposed to previous artificial groupings typified by Hlady's mode

analysis (1971:7-16). Kelly began his analysis by selecting 33 binary attributes measured as decorative data for a sample of 105 vessels recovered from the region. The numerical data was subjected to cluster analysis program CLUSTAN 1C. Cluster analysis was selected because of its ability to generate natural groupings based on numerical data and its ability to discriminate groupings of an otherwise visually homogeneous sample.

The results of this analysis indicated "little overall difference measurable among the vessels from the standpoint of decoration" and that "no natural subgroupings are suggested by the analysis" (Kelly 1978:70). In other words, the sample is homogeneous. Although Kelly was hoping to find internal variation in the sample, the fact that he did not suggests the manufacturers of the ceramics were sharing the same cultural traditions and, by extension, were members of the same society. Other wares recovered from the region are in such small numbers that they clearly represent trade items (Syms 1976:283).

Kelly's analysis does not support a rejection of an alternative hypothesis — that of the region being occupied by a society which had geographical limits beyond the Southern Indian Lake region. To consider this question, a study by Dickson is of relevance. Dickson's ceramic analysis was inter-regional in scope as he took a sample of vessels from the Southern Indian Lake region and compared it with samples from the Churchill River system in eastern Saskatchewan, the Sturgeon Weir River mouth and Deschambault Lake - Pelican Narrows area, the Limestone Point site on the Nelson River, the Clearwater Lake Site in northwestern Manitoba and from north-central Manitoba (Dickson 1980:70). In effect then, these extra-regional samples essentially bracketed the Southern Indian Lake region. Selecting 12 design elements/attributes, Dickson tabulated these and ran a series of chi-square

tests to determine which attributes were associated in each sample set. When the results were compared, he concluded that while all the samples are similar, they are only distantly so and ultimately the Southern Indian Lake ceramics must be considered regionally distinct and unique (Dickson 1980:74-76).

Finally, a sample of 20 Terminal Woodland ceramic sherds were subjected to differential thermal analysis (DTA) and X-ray diffraction examination. The sample included sherds from Southern Indian Lake as well as the Rat-Burntwood region to the immediate south (Hudson 1976).

The DTA indicated that all sherds were fired to not less than 950°C. Slight differences in thermograms were attributed to differential amounts of crushed granite temper in about one-half of the sample. Two of the Rat-Burntwood samples were manufactured from clays with a different iron content, however.

X-ray diffraction indicated that the Southern Indian Lake sherds were unusual with respect to the presence of iron cordierite — especially when compared with ceramics from Moose Bay. In general, there is an overall similarity in the samples, although some slight differences were noted between the Southern Indian Lake and Rat-Burntwood specimens.

Discussion

From the above there is certainly some evidence to suggest that, at least with ceramics, there is an intra-regional homogeneity and, on a gross scale, inter-regional variation. The presence of the unique ceramic plate form only in the Southern Indian Lake regional certainly adds strength to the supposition that there was a discrete cultural tradition in the region.

As to whether the potters at Southern Indian Lake were men or women is not known. The ceramic technology was apparently very quickly replaced

with copper and other metal containers early in the Historic Period. The historical literature is silent on this topic, and there is certainly no living memory of ceramic manufacture or use in the contemporary Southern Indian Lake Cree community. Traditionally, however, it has been an assumption, usually supported with ethnographic data, that females were the potters (Deetz 1965; Longacre 1970). These studies were conducted in spatially quite distant regions in societal contexts at a higher level of complexity. Should women be assumed to have been potters at Southern Indian Lake (as will be the case later in this report), it must be considered a statement of possibility rather than fact.

More generally, the manufacture and use of ceramics by hunters and gatherers is a paradox in its own right, as the presumed transitory nature of their settlement would seem to argue against use of ceramics — a bulky, relatively heavy and certainly fragile container. Nevertheless, Arnold (1976) cites several examples of nomadic and semi-nomadic peoples using ceramics. At Southern Indian Lake, the use of canoes would have negated the several cited disadvantages of ceramic use. The recovery of sherds at portage sites attests to their having been transported and to their vulnerability.

CHAPTER 7

REVIEW: HYPOTHESIS, ALTERNATIVES AND TEST IMPLICATIONS

The initial hypothesis as set forth in Chapter 1 postulated a regionally distinct band occupying the Southern Indian Lake region throughout the Terminal Woodland Period. Three alternative hypotheses were considered: (1) the region was occupied by more than one discrete contemporaneous group, either permanently or seasonally; (2) two or more groups occupied the region diachronically; (3) the region was used by a discrete group who occupied an area much larger than the Southern Indian Lake region. It must be remembered that yet other hypotheses could be tested; however, the four that have been defined were chosen as the most appropriate and comprehensive for understanding the archaeological data available. An attempt was made to construct the hypotheses so that they could be falsified and the quality of supporting evidence for each could be evaluated. It must also be remembered that future research may elicit new information that will force a re-evaluation of these conclusions.

It is abundantly clear that no single test implication is, by itself, sufficient to merit acceptance or rejection of any of the hypotheses. However, when all the test implications and their results are considered together, the initial hypothesis of a regionally distinct group occupying the Southern Indian Lake area throughout the Terminal Woodland Period is seen to be the one receiving the strongest support. Consequently, that hypothesis is regarded as not having been falsified and as being the best among the hypotheses considered.

The archaeological evidence is at the heart of both the hypothesis formulation and the testing procedures. That is, it was the apparent limited

geographic distribution of the ceramics (especially the ceramic plates) that suggested the initial hypothesis and, as research proceeded, structured the range of questions asked and the steps taken to elicit information for answering those questions. These questions led to other archaeological matters (largely distributional), and the environmental and ecological conditions of the Southern Indian Lake and adjacent areas.

On the basis of available information, it appears that the Southern Indian Lake region does have a ceramic tradition that is stylistically homogeneous, on the one hand, and which is clearly discrete from the ceramic traditions of adjacent and nearby regions. This is most readily apparent in the ceramic plates; however, the decorative motifs found in the entire ceramic assemblage show similar although less definitive distributional patterning. Had greater intra-regional variability within the Southern Indian Lake area been found, alternative hypotheses numbers 1 and 2 would have been supported. If the stylistic complex had been found to extend beyond the Southern Indian Lake area, alternative hypothesis number 3 would have been supported.

The archaeological evidence by itself is not enough to sustain the initial hypothesis. Should it be shown that the Southern Indian Lake region did not have the resources to support a group through all seasons and over several centuries, other explanations of the ceramic homogeneity would have to be sought. Demonstration of adequate and fairly stable resources is thus a pre-condition for accepting the initial hypothesis, and this required investigation of the environmental and ecological conditions during the Terminal Woodland Period. Little direct evidence was available, but a combination of large-scale climatic reconstruction, historical information, modern wildlife and climatic studies, and archaeological information allowed a tentative reconstruction.

The Southern Indian Lake region is in the central Boreal Forest, a factor that tended to negate the effects of climatic fluctuation which had much more extreme repercussions to the north and south. It appears that from ca A.D. 750 until the Proto-Historic Period, climatic and ecological conditions were remarkably stable in this particular region. The major effect of more severe climatic conditions would have been somewhat longer winters. Key resources such as fish would have been largely unaffected by whatever minor environmental perturbations occurred. Thus, one of the preconditions for survival of the initial hypothesis appears to have been met. The environmental/ecological/climatic conditions were reasonably stable over the time period in question. Such environmental stability was possible if not mandatory in the sense that cultural adaptation to changing environmental conditions was not required.

The other pre-condition (or test implication) concerns the nature and abundance of basic subsistence resources. Although none would claim that the Southern Indian Lake region was a Garden of Eden, small-group self-sufficiency within the area was entirely feasible throughout the annual cycle for hunters and gatherers with adequate technology and environmental knowledge. The primary food resource was fish, augmented by large and medium mammals and moderately abundant floral resources.

A final factor promoting intra-regional group cohesion can be mentioned. The Southern Indian Lake region actually forms a physiographic unit that is, internally, easy to move around in, but externally is separated from adjacent regions by physical barriers. These barriers are by no means pronounced or insurmountable, but they presumably served to restrict movement to some extent. These take the form of long portages and vast, densely

forested stretches which were not only more difficult to traverse but which had significantly fewer resources to offer.

Although it is argued that the initial hypothesis is the only one that has survived testing and it is therefore the one that is regarded as the best explanation of available data, a point made earlier should be stressed. The Southern Indian Lake region during the Terminal Woodland is not to be regarded as a closed system. There are any number of bits and pieces of archaeological evidence that indicate some degree of inter-action with other regions. Further, a view of complete isolation would be quite inconsistent with all accounts of band-level societies. It may be presumed that some group exogamy occurred, some individual or small group mobility occurred, trade occurred, and so on. These factors can hardly be properly evaluated on the basis of available data, and the present hypotheses and their implications were not designed seriously to address such factors.

Rather, the surviving initial hypothesis suggests continuity of a social group within the region as a central tendency -- a central tendency strong enough to create the regional differentiation of the ceramic styles from all adjacent and nearby regions.

Since the strongest support is for the initial hypothesis of a discrete regional social system that persisted throughout the Terminal Woodland Period, attention should turn now to ethnographic analogy for two purposes. First, ethnographic information on band level societies generally and on eastern Sub-arctic peoples in particular can be seen as a further level of testing. If the surviving hypothesis is markedly out of line with anthropological concepts of band level societies in Sub-Arctic environments, then the intial hypothesis would still have to be rejected. Second, assuming that this is not the case, ethnograhic analogy can provide interesting additional insights into the Southern Indian Lake case.

CHAPTER 8

ETHNOGRAPHIC OBSERVATIONS AND THE SOUTHERN INDIAN LAKE REGION

The use of ethnographic analogy is essentially a process of drawing inferences about non-observed behaviour through reference to relevant observed behaviour (Morwood 1975:111). Greater confidence in the analogy is drawn from cultures that manipulate similar environments in similar ways (Asher 1973:405). The ethnographic focus therefore will be on the Eastern Subarctic culture area which includes the Southern Indian Lake region (Driver 1961). The intent in this chapter is to determine, by example, the nature of the regional occupation in anthropological terms.

Within Eastern Subarctic Canada, the ethnographically present residents are the Angonkian-speaking Cree and Ojibwa found in isolated groups subsisting as hunters and gatherers at the band level of socio-cultural integration (Rogers 1969:21).

In considering band level societies, it is often easier to define what they are not:

> . . . there are no special economic groups or special productive units such as guilds or factories, no specialized occupational groups, no economic institutions such as markets, no special consuming groups or classes. The economy, in short is not institutionalized, but remains merely an aspect of kindship organization, in the usual modern sense of the word there is no formal economy at all.
>
> The same is true of other cultural functions. There is no separate political life and no government or legal system above the modest informal authority of family heads and ephemeral leaders. Likewise, there is no religious organization standing apart from family and band; and the congregation is the camp itself.
>
> The fact that family and band are simultaneously the sole economic, political, and religious organization greatly influences the character of activities. The economy, polity and ideology of the culture of bands is unprofessional and unformalized, in short, it is familistic only (Service 1962:108-109).

What bands are, however, largely depends on the context in which they operate. Speaking of the Eastern Subarctic groups, Rogers (1969:18) has noted an extreme diversity in structure. This variation has been linked to environmental factors as specific groups in specific localities, each with its own resource community, will adapt in different ways to variations in the local resource communities (Fisher 1973:131; Rogers 1969:18).

In general, however, there seems to be some consistency in the social organization of such groups. At the most general analytic level there is a tripartite system consisting of the small family group, a larger organization of several small family groups, and finally aggregates of multi-family groups. The first level will simply be called the "hunting group", although it may have been composed of related families and functioned as an extended family. In either case, Leacock (1969:9) considers this to be the basic social and economic unit. The second level will be referred to as the "local band". The third level, composed of several local bands, will be referred to as the "band society".

In considering each of these groups, although the hunting group may be the basic social and economic unit, it is the local band which, over the course of a year, is the minimum viable economic unit (Rogers 1969:28). Estimates of the size of the local band vary as censuses, such as they were, were only taken once the fur posts were established. As several local bands would often congregate at the post, population estimates ranged from 50 to over 300 individuals (Leacock 1969:10; Rogers 1969). In sorting through the confusing and contradictory historical records, Rogers (1969:41-42) believes a pre-contact local band size of at least 50 individuals composed of three to five hunting groups to be realistic.

Economic self-sufficiency was maintained on the seasonal round which, starting in the spring, saw the local band at a favourable fishing ground. Fishing camps in the locality were maintained throughout most of the summer until, in the fall, the band dispersed in hunting groups to hunt and to establish whitefish fisheries. Throughout the winter, the local band remained dispersed except for a short period in mid-winter when the hunting groups reformed into the local band (Rogers 1969:28).

Although the local band may have enjoyed economic self-sufficiency, it was also the unit of exogamy (Leacock 1969:9). While 50 people may constitute an economically viable unit, it is not self-sufficient in terms of human biology coupled with incest taboos. A biologically self-sufficient system has been estimated through computer simulation models to require a minimum of 475 individuals to survive through several generations (Wobst 1976). Meiklejohn (1977:108) believes this figure is too low and suggests that up to 1000 individuals may be required. Williams (1974:29) points to 600 as a mean effective breeding population size. Whether 475 or 1000, the local band can never operate as an effective deme. Through cross-cousin marriages the local band could, in specific instances, be endogamous but this pattern could not persist over time.

With this information at hand, specific attention can be given to the Southern Indian Lake region. As presented in Chapter 5, the Southern Indian Lake region consists of approximately 12,000 km^2. An average population density for the Precambrian Shield in Western Ontario was estimated at one person per 21 km^2 (Rogers 1969:46). Applying this to the Southern Indian Lake region, there would be expected an approximate population of 575 individuals. Although somewhat below Meiklejohn's estimate for an effective deme, it substantially exceeds the theoretical minimum.

At Southern Indian Lake there are eight walleye spawning locales (Chapter 2) which are prime spring fisheries. These locales, located on the first rapids of tributary creeks above the lake, are also areas of diverse habitat where moose, beaver, muskrat and numerous plant resources are found in close proximity. However, it was the fish that would serve as the primary resource and they would be there, barring a catastrophic circumstance, without fail. If each of the eight walleye spawning sites was the point of spring aggregation for the local band, each local band would consist of approximately 70-75 individuals based on a regional carrying capacity of not quite 600 people. A local band of this size is within the range of variation for such groups (Williams 1974:29).

A relatively high pre-contact local band population could have been supported by the dependable fishery. However, a total regional population tending toward the average may be a function of a "worst case" scenario in winter. For example, a seasonal round in the Southern Indian Lake region would proceed consistent with the general Boreal pattern until after the fall whitefish catch. It was probably quite convenient that the fall fishery at the north end of Southern Indian Lake was coincident with the entry point for the migrating caribou. After the fall fishing, the people would probably await freeze-up, by which time they would likely have some information as to whether the migration would enter the region. If so, they would stay at the north end — if not, the lake would be suitable for travel and the local bands would disperse. Arrival of the caribou would probably result in large aggregates throughout the winter, especially if the herd remained during the entire season. Had caribou been a seasonal constant then a situation analogous to the Northwest Coast might be expected. However, such was not the

case and population density was controlled by the limiting factor of winter without caribou.

Regional concentration of the whitefish spawning and the congregation in anticipation of caribou was possible in large measure because of the relative ease of transportation provided by the region. Unlike the Montagnais-Naskapi, for example, who travelled large distances overland, the Southern Indian Lake residents would move long distances in summer via canoe easily and quickly. In winter, after freeze-up, the smooth frozen lake surface made walking and hauling loads an expeditious process. Thus, if the caribou migration failed to appear, hunting groups could move to their pre-selected areas in short order.

Congregation in the fall of at least several local bands, combined with the high mobility, probably tended to increase the social scale of the band society, where "social scale" refers to the degree and intensity of personal interactions in a society. Increased social scale results in increased communication maintaining the integrity of the group, and tends to spread ideas and aspects of behaviour throughout the social system engaged in the interaction (Dekin 1975:283).

Finally, the nature of the kinship organization is not immediately obvious, either through the archaeological or ethnographic data. Steward (1955:143-144) suggests that the Northern Algonkian Bands were composite, lacking specific rules about both marriage and residence. For the Mistassini Cree and Round Lake Ojibwa, the pattern appears to be one of patri-local residence although women did sometimes remain within the territory of their natal group (at the level of the local band) (Rogers 1969). Leacock (1969:6-8) argues that prior to the institutionalization of the trap-line

territory among the Montyagnais-Naskapi there was a definite matrilocality founded on the woman's knowledge of localized non-transitory plant harvesting areas.

At Southern Indian Lake, the archaeological data point toward a homogeneous ceramic assemblage. If it is assumed that women were potters, then a higher rate of movement by women could be inferred. However, in a composite system women are still moving and regional homogeneity would also be expected. In a purely or highly matrilocal situation, a localization of ceramic styles may have evolved. However, this is not entirely ruled out at Southern Indian Lake even in the face of regional ceramic homogeneity if the high level of social contact is accepted during the fall aggregation of local bands at the north end of the region. Ultimately, the question of rules of descent and post-marital residence probably hinge on whether the spring fishery was a sex-specific activity. Whichever sex was primarily engaged in this activity would tend to become the pivotal point in the kinship system.

CHAPTER 9

RECAPITULATION

This study, focusing originally on the unique ceramic plates recovered from the Southern Indian Lake region, began in 1974 with a laboratory analysis of the vessels in an effort to determine their function. The results of the analysis strongly suggested their having served as fish oil lamps used during virtually any season. Southern Indian Lake's position in the high Subarctic results in long winters with few daylight hours for several months when additional sources of light and heat would be required. Throughout the spring, summer and fall cool temperatures and/or inclement weather would likewise move some activities indoors where light would be necessary -- especially fine needle and decorative work.

The restricted distribution of the ceramic plates prompted an interest in the processes which would result in their prolonged occurrence in such a delimited area. Statements by J.V. Wright and Walter Hlady that they would expect regional expressions of Cree, combined with numerous statements to the effect that regional differentiation should be empirical archaeologically, led the author to explore, in explicit terms, this possibility at Southern Indian Lake.

Archaeological studies were undertaken to investigate more fully the distributional parameters of ceramic plates as well as the factors of boundary maintenance. In short, a regional context was defined based on physical and cultural obstacles which, while not prohibiting the flow of people and ideas, tended to restrict them.

That a regionally distinct culture persisted for perhaps 900 years with no major recognizable changes was subsumed within an environmental

context. During the Terminal Woodland Period, while there was environmental change, it was gradual and minor with effects that were easily adapted to within the cultural capabilities of the regional residents.

The economically significant resources within the region were examined and found to be adequate for group maintenance. Focusing on the spring and fall fisheries, the residents probably enjoyed a bi-seasonal predictability in at least this major resource. The reliability and predictability of fish largely structured the regional social organization, with the eight walleye spawning sites being the focal point for the spring coalescence of the local bands with membership numbering 70 to 75 individuals. Coalescence of at least some of the local bands probably occurred in fall at the north end of the region during the whitefish spawn and in anticipation of the November caribou migration. The arrival of caribou was probably a most welcome event, as it insured a secure winter subsistence acquired with relative ease. Lack of caribou, however, did not result in famine, as the hunting groups would quickly disperse to pre-selected hunting localities. It was the lack of caribou, however, that dictated a regional population density which never exceeded the overall Boreal Forest average. Ultimately, the hunting groups, through time, were dependent on the hunting of moose, trapping small game, and the winter fishery. It was the winter season without caribou that was the primary limiting factor.

Probably most important in the maintenance of a regional identity, both culturally and socially, was the regional geography. Within the region, travel via canoes in summer and across the easily traversed frozen lake in winter precluded extensive difficult and time-consuming overland treks. Thus, failure of resources in one area presented little cause for concern as the

hunting group or local band could easily and quickly relocate. Intra-regional ease of movement also allowed full internal contact within the society while obstacles of long portages, difficult riverine stretches and numerous rapids tended to restrict movement and communication extra-regionally. Finally, high intra-regional mobility also tended to focus ideas and people inward to the point where regional variations occurred, of which ceramic plates are perhaps but one result.

By no means have the test implications for a regional band society been exhausted. However, with the available data and information the notion of an occupation by such a group relative to the possible alternatives is clearly supported. Unfortunately, as a cultural laboratory the Southern Indian Lake region no longer exists. However, other similar lake regions do, especially Granville to the immediate west of Southern Indian Lake above Leaf Rapids. Surface ceramics in private collections recovered from Granville Lake and examined by the author revealed sherds quite unlike those found at Southern Indian Lake but very similar to those unclassified wares recovered from HdLx-19 and HcLx-1. Archaeological studies at Granville Lake explicitly designed to study prehistoric band level dynamics in the Eastern Subarctic are warranted and recommended.

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APPENDICES

INTRODUCTION

The following appendices contain the metric and non-metric artifact attribute data as well as faunal and floral listings. As there have been several previous reports dealing, at least in part, with the material culture recovered from sites in the Southern Indian Lake region (Dickson 1975, 1980; Hanna 1975), this presentation will be consistent with these previous reports. The rationale for following the previous styles and formats is primarily based on providing data that is analytically consistent intra-regionally. The artifact data which follow would also seem to have a utility inter-regionally insofar as the selected attributes, while not exhaustive, are extensive, objective and largely quantifiable.

With respect to the artifacts, they have been segregated into the following classes: projectile points, scrapers, bifaces, unifaces/retouched flakes, ceramics and Historic.

The selected projectile point attributes and their definitions are based on a work undertaken by Binford (1963). Scrapers — defined as plano-convex artifacts which are retouched only on the convex dorsal surface (Minni 1976:99) and are thought to have served some scraping function, be it hides, bone and/or wood — have been segregated largely based on convention but partially as a result of Pokotylo's (n.d.) monograph on the function of these tools as they have been recovered from selected northern Manitoba sites. Selected scraper attributes and their definitions are based on this study as well.

Bifaces are simply defined as lithic artifacts which have been worked on either both faces or along both sides of one or more edges. Likewise, uniface lithic tools are those unifacially worked along one or more edges.

The ceramics have been classified with respect to identifiable vessels determined on the basis of shoulder, rim and neck morphology and surface treatment. Sherds not attributable to a particular vessel are omitted.

Historic artifacts are those which relate to the activities of the fur trade and early exploration. In general, this will only include artifacts pre-dating 1900 when known and specifically exclude recent/modern era material.

A final remark must be made on the condition of the collections as they were received in 1982. These artifacts, until fairly recently, have not enjoyed a secure or permanent home. Recovered as early as 1969, they have been moved to different storage locations as many as six times. Added to this is the fact that some of the artifacts have been loaned several times for display and interpretive purposes. It is hardly surprising then that several were found to be missing. Especially regretable is the loss of several projectile points from HcLx-1. It is some consolation, however, that two of them have been previously illustrated (see Dickson 1972:197, d and g).

APPENDIX 1

PROJECTILE POINT METRIC AND NON-METRIC ATTRIBUTES

Attribute Definitions

Metric Attributes

1. Length: The longitudinal axis between the tip and the basal edge.

2. Width: The axis of maximum width usually perpendicular to the longitudinal axis.

3. Weight: The weight of the specimen.

4. Thickness: The point of maximum thickness.

5. Width at Notches: The two symmetrically opposing medial points closest to the longitudinal axis of the specimen.

6. Notch Depth: That portion of the notch closest to the longitudinal axis to the midpoint of a line connecting the distal and proximal points of the haft element.

7. Notch Length: The proximal and distal points of junction of the haft element.

8. Minimum Base Length: On the longitudinal axis it is the point where the longitudinal axis crosses the most proximal transverse edge of the base and a line constructed between the two most distal points of the haft element.

9. Maximum Base Length: Similar to the minimum base length except that the measurement is carried to the most distal edge of the base.

10. Base Width: The two defining points of junction for the base.

Non-Metric Attributes

I. Material: 1. Chert
2. Quartz
3. Chalcedony
4. Basalt

II. Condition: 1. Complete
2. Fragments - one or more attributes are missing and assumed present upon completion of manufacture.

III. Notching: 1. Present
2. Absent

IV. Evidence of Thinning for Hafting:

1. Present, or
2. Absence of basal thinning

V. Base Element:

1. Straight Base - an edge which describes a straight line between the two defining points of the base.

2. Excurvate Base - an edge which describes a convex line between the two defining points of the base.

3. Incurvate Base - an edge which describes a concave line between the two defining points of the base.

NOTE: Code 0 is used when an attribute is missing and presumed present prior to breakage.

Code 9 is used when an attribute is missing and presumed never to have been present.

APPENDIX 1a
METRIC ATTRIBUTE DATA - PROJECTILE POINTS

	HcLx-1 (Missing)	HcLx-1 (Missing)	HcLx-1	HcLx-1	HcLx-1 (Missing)
Specimen number	104	105	243	300	662
Length (cm)	-	-	2.800	2.520	-
Width (cm)	-	-	1.715	2.000	-
Weight (gr)	-	-	1.8	3.2	-
Thickness (cm)	-	-	0.510	0.735	-
Width at Notches (cm)	-	-	0.925	1.305	-
Notch Depth (left) (cm)	-	-	0.415	0.150	-
Notch Depth (right) (cm)	-	-	0.425	0.250	-
Notch Length (left) (cm)	-	-	0.635	0.810	-
Notch Length (right) (cm)	-	-	0.505	0.900	-
Maximum Base Length (cm)	-	-	0.525	0.350	-
Minimum Base Length (cm)	-	-	0.355	0.215	-
Base Width (cm)	-	-	1.750	1.600	-

APPENDIX 1b
NON-METRIC ATTRIBUTE DATA - PROJECTILE POINTS

	HcLx-1* (Missing)	HcLx-1* (Missing)	HcLx-1	HcLx-1	HcLx-1* (Missing)
Specimen Number	104	105	243	300	662
Material	2	2	4	2	1
Condition	1	1	1	1	-
Notching	1	2	1	1	-
Evidence of Thinning for Hafting	-	-	2	2	-
Base Element	1	2	1	3	-
Plate			9:A	9:B	

* Information from catalogue.

APPENDIX 2
BIFACE METRIC AND NON-METRIC ATTRIBUTES

Site Number	Specimen Number	Length (cm)	Width (cm)	Weight (gr)	Thickness (cm)	Material	Condition	Plate Number
HcLx-1	2	3.76	3.44	14.4	1.27	1	1	
HcLx-1	556	3.70	2.40	4.7	0.79	1	1	9:C
HcLx-1	1033	8.08	6.16	75.1	1.60	2	1	
HdLx-19	2	4.16	3.57	12.0	0.84	1	1	9:H
HdLx-19	419	0	2.53	0	0	4	2	9:E
HdLx-19	990	5.44	2.63	6.7	0.74	4	1	9:D

APPENDIX 3

SCRAPER TOOL METRIC AND NON-METRIC ATTRIBUTES

Definitions used in the analysis:

Metric Attributes

1. Length: The length of the artifact along the longitudinal axis, i.e., the median line drawn from the point of percussion.

2. Maximum Width: The maximum distance perpendicular to the longitudinal axis.

3. Thickness: The maximum distance in transverse section.

4. Working Edge Width: The maximum width of the retouched area of the specimen.

5. Working Length: The distance measured along the longitudinal axis to the retouched edge measuring the convexity of the retouched edge.

6. Weight: The weight of the specimen in grams.

Non-Metric Attributes

I. Condition: The nature of the specimen when found.

1. Complete
2. Fragment - one or more attributes missing when recovered and assumed to have been present at the time of manufacture.

I. Material: The type of lithic raw material.

1. Chert
2. Quartz
3. Chalcedony
4. Basalt

III. Overall Outline: The overall shape of the artifact.

1. Triangular - a three-sided figure
2. Ovoid - roughly egg-shaped in outline
3. Irregular - no definable shape
4. Discoidal - disc-shaped in outline
5. Rhomboid - a lozenge shape where all sides are relatively equal with angles which are not right angles

IV. Tool Type: Refers to the placement of retouch on the specimen.

1. End tool - the working edge is located transversely on the specimen. Retouch may also be present along the lateral edges.
2. Side tool - the working edge is located only on the lateral edges of the specimen.

V. Longitudinal Section: The morphological outline formed by the dorsal and ventral surfaces viewing the specimen from a lateral side along the longitudinal axis.

1. Plano-convex - specimens exhibiting a combination of a plane and convex outline.
2. Concave-convex - specimens with a concave and convex outline.
3. Bi-convex - specimens with both surfaces being convex.
4. Bi-plano - two plane surfaces in outline.
5. Bi-concave - two concave surfaces.
6. Plano-concave - specimens with a combination of a plane and concave outline.
7. Irregular - artifacts which do not correspond to any distinct geometrical form.

VI. Working Edge Form: Describes the morphology of the retouched working edge viewed in cross-section, on end, distal edge.

1. Straight
2. Convex
3. Concave

NOTE: Codes 0 and 9 are used as per Appendix 1.

METRIC ATTRIBUTES - SCRAPER TOOLS

Site Number	Specimen Number	Length (cm)	Width (cm)	Thickness (cm)	Working Edge Width (cm)	Working Edge Length (cm)	Weight (gr)
HcLx-1	220	2.285	1.955	0.385	1.840	0.365	1.6
HcLx-1	237	4.075	3.095	1.430	3.440	0.175	16.6
HcLx-1	269	2.980	2.790	0.975	2.630	0.360	6.0
HcLx-1	354	1.570	1.650	0.710	1.630	1.940	1.5
HcLx-1	774	2.790	3.000	0.610	1.940	0.287	5.2
HcLx-1	998	2.985	2.586	1.025	2.534	0.390	8.3
HcLx-1	1028	4.075	3.070	2.118	2.275	0.060	19.0

NON-METRIC ATTRIBUTES - SCRAPER TOOLS

Site Number	Specimen Number	Condition	Material	Overall Outline	Tool Type	Longitudinal Section	Working Edge Time	Plate Number
HcLx-1	220	1	1	3	1	1	2	
HcLx-1	237	1	2	3	1	2	2	
HcLx-1	269	1	1	6	1	2	2	9:G
HcLx-1	354	1	1	5	1	5	1	
HcLx-1	774	1	1	3	1	5	2	
HcLx-1	998	1	2	6	2	2	1	
HcLx-1	1082	1	1	6	1	2	3	

APPENDIX 4
RETOUCHED FLAKES - METRIC AND NON-METRIC ATTRIBUTES

Definitions Used in Analysis

Metric Attributes

The metric attributes of retouched flakes are defined in the same manner as described in Appendix 1.

Non-Metric Attributes

I. Condition:

1. Complete
2. Fragment

II. Material:

1. Chert
2. Quartz
3. Chalcedony
4. Basalt

III. Flake Type: Refers to the stage of manufacture of the flake prior to retouching.

1. Primary decortication - all of the outer cortex is present.
2. Secondary decortication - some but not all of the outer cortex is present.
3. Tertiary flakes - no cortex is present.

IV. Number of retouched edges:

1. One
2. Two
3. Three or more retouched edges but not continuous
4. Continuous

V. Manufacture:

1. Unifacial: retouch is present on only one face of the specimen.
2. Unifacial-bifacial: retouch is present on both faces but is discontinuous, i.e., one or more faces are unifacial.
3. Bifacial: retouching is present on both faces.

APPENDIX 4
METRIC AND NON-METRIC ATTRIBUTES - RETOUCHED FLAKES

Site Number	Specimen Number	Length (cm)	Width (cm)	Thickness (cm)	Weight (gr)	Condition	Material	Flake Type	Number of Retouched Edges	Type of Retouch	Plate Number
HcLx-1	9	2.88	2.63	0.87	2.6	1	1	3	1	1	
HcLx-1	(SIL-5) 29	6.75	2.25	2.05	14.0	1	1	3	3	2	9:F
HcLx-1	(SIL-5) 51	2.49	3.37	1.15	6.0	1	1	3	2	1	
HcLx-1	219	2.97	1.97	0	3.5	2	3	3	3	2	
HcLx-1	245	2.48	2.29	0.95	3.7	1	1	3	1	1	
HcLx-1	257	4.13	3.40	1.20	8.8	1	2	3	3	1	
HcLx-1	(SIL-5) 290	3.43	3.26	1.77	19.2	1	2	3	2	1	
HcLx-1	332	2.25	1.98	0.50	1.4	1	1	3	1	1	
HcLx-1	363	2.38	1.55	0.70	5.1	1	9	2	1	1	
HcLx-1	389	2.60	2.26	1.30	7.6	1	2	3	2	1	
HcLx-1	393	0	0	0	0	2	4	3	2	2	
HcLx-1	618	4.57	3.68	1.41	22.7	1	1	2	1	1	
HcLx-1	686	4.24	1.64	0.63	3.5	1	2	3	2	2	
HcLx-1	687	5.05	3.27	1.45	15.7	1	1	2	3	2	
HcLx-1	927	5.45	4.09	1.24	20.2	1	1	2	1	1	
HcLx-1	937	0	1.39	0.44	1.4	2	1	3	2	1	
HcLx-1	941	6.21	4.59	1.34	52.1	1	2	3	1	1	
HcLx-1	997	2.65	1.62	0.81	3.1	1	2	3	1	1	
HcLx-19	537	2.93	2.13	0.50	3.2	1	2	3	3	1	
HcLx-19	475	0	0	0.27	0	2	4	3	1	1	
HcLx-19	653	0	0	0	0	2	3	1	1	1	

APPENDIX 5
CERAMIC ATTRIBUTES

A. Type:

1. Laurel
2. Clearwater Lake Punctate
3. Unknown/Unclassified

B. Vessel Shape:

a. Conical
b. Subconical
c. Globular
d. Unknown

C. Temper

1. Grit
2. Shell
3. Sand
4. Other
9. Unknown

D. Lip Profile:

1. Flat
2. Rolled
   a. interior overhang
   b. exterior overhang
3. Beveled
   a. interior
   b. exterior
4. Other
5. Unknown

E. Rim-Shoulder Profile:

1. Straight
   a. inverted
   b. everted
2. Incurvate
3. Excurvate
4. S-curve
5. Other
6. Unknown

F. Shoulder Form:

1. Carinated
2. Rounded
3. Other
4. Unknown

G. Surface Treatment:

1. Fabric - net-impressed
2. Cord-impressed
3. Smoothed
4. Plain
5. Other
6. Unknown

H. Decoration - Lip:

1. Incised
2. Cord-impressed
3. Smoothed
4. Fabric - net-impressed
5. Other
6. Unknown

I. Decoration - Neck (Number following dash indicates number of rows of decorative motif):

1. Punctates - exterior
   a. Round
   b. Oval, vertical
   c. Oval, horizontal
   d. Other

2. Punctates - interior
   a. Round
   b. Oval, vertical
   c. Oval, horizontal
   d. Other

3. Bosses
   a. exterior
   b. interior

4. Dentate
   a. exterior
   b. interior

5. Other
   a. exterior
   b. interior

6. None

9. Unknown

APPENDIX 5
CERAMIC ATTRIBUTES

Site Number	Vessel Number	Type	Vessel Shape	Temper	Lip Profile	Rim-Shoulder	Shoulder Form	Surface Treatment	Decoration - Lip	Decoration - Neck	Plate Number
HcLx-1	1	2	d	1	1	3	9	1	4	1d, 3B(1)	10:E
HcLx-1	2	3	d	9	5	9	9	9	3	1a, 2a(9)	
HcLx-1	3	3	d	1	1	3	9	1	3	1a (2)	10:B
HcLx-1	4	1	d	9	1	1	9	2	2	1a (9)	
HcLx-1	5	2	d	9	2b	9	9	1	5	1a (9)	
HcLx-1	6	1	d	1	3b	1	9	3	3	2a, 3a(1)	10:A
HcLx-1	7	2	d	1	3b	1	9	1	4	1a, 3b(9)	
HdLx-19	1	2	d	1	1	3	9	1	4	1a, 3b(1)	10:C
HdLx-19	2	3	d	1	1	9	9	9	1	1a, 2a(9)	
HdLx-19	3	3	d	1	1	9	9	9	1	9	
HdLx-19	4	3	d	1	3b	9	9	9	1	5a	10:D
HdLx-19	5	3	d	1	3b	9	9	3	3	1d	
HdLx-19	6	1	d	1	1	9	9	9	3	5a	

APPENDIX 6

HISTORIC ARTIFACTS

One fairly fool-proof method of locating sites in this region of the Boreal Forest is simply to look for those places used recently by the Native residents. Although to be treated as an hypothesis, the activities of the people participating in a largely land-based economy today occur at the same places utilized prehistorically. An axiom of this is that the presence of modern refuse on the surface of a particular area will signify earlier refuse below surface. In short, the prehistoric sites in the Southern Indian Lake region often contain recent debris exposed on the surface. The sites HcLx-1 and HdLx-19 were not exceptions.

For example, at HcLx-1, eleven garbage bags of trash were removed from the site surface prior to excavation. Needless to say, some of this becomes buried and, as a result, ends up as artifacts: collected, bagged and catalogued.

Typical among this material are pull-tabs from aluminum cans, bottle caps, bits and pieces of camp equipment, rifle shells, etc. On the one hand there is some temptation to exclude this material from the artifact collections at the time of recovery. On the other, there may be value in its retention. The modern debris often has prehistoric correlates — rifle shells equate with projectile points, discarded Spork tins are the equivalent of prehistoric faunal remains, etc. As such, it is an interesting possibility that a comparative study of old vs recent may offer insight into changing modes of subsistence, land use, etc. through time for a group of people with a cultural and genetic continuity.

However, as that is a study in its own right the plethora of modern debris is excluded from presentation in this appendix. Included is the material that is Historic insofar as it relates to the era of fur trade and exploration in the region. This subject is touched upon in the body of the report and, as such, has some specific relevance.

Site No.	Specimen No.	Item	Comments - Plate No.
HcLx-1	(SIL-5) 50	Glass bead	Although not specifically illustrated in Kidd and Kidd (1970) this bead would be classed as Wlkc; an oval tubular wire bound bead. The body is ivory with a laurel pattern inset around the middle. At both ends is an inlaid green glass swirl (Plate 11:B).
HcLx-1	(SIL-5) 120	Base of clay pipe	
HcLx-1	119/120	Clay pipe stem fragment	
HcLx-1	165	Ruby colour glass Rosary beads on a metal chain	
HcLx-1	383/500	Square cut nails	
HcLx-1	349	Axe head	
HcLx-1	503	Canoe awl	11:C
HcLx-1	913	Key	
HcLx-19	Various	Numerous "seed" beads in a variety of colours collected from virtually every site area	
HdLx-19	269	Metal decorative heart	
HdLx-19	283	Three-pronged wooden-handled fork	Plate 11:A
HdLx-19	302	Collection of nine sewing needles	
HdLx-19	540	Square cut nail	

APPENDIX 7

FAUNAL ANALYSIS - FcLx-1

List of Abbreviations

frag(s).	fragment(s)
lge.	large
med.	medium
misc.	miscellaneous
prox.	proximal
sm.	small
unid.	unidentifiable

Catalogue No.	Description	Identification	Comments
132	astragalus	Martes pennanti	sub-adult
136	incisor tooth	Alces alces	adult
138	pelvic frag.	medium mammal	
139	cervical vertebra frag.	large mammal	
140	vertebra frag.	large mammal	
141	long bone frag.	med./lge. mammal	possible butchering marks
143	long bone frag.	med./lge. mammal	
161	skull fragments	medium mammal	
163	long bone frag.	med./lge. mammal	
171	skull fragments	medium mammal	
181	right humerus	Castor canadensis	sub-adult
190	cleithrum frag.	Esox lucius	associated with 191
191	cleithrum frag.	Esox lucius	
193	misc. frag.	mammal?	
195	thoracic vertebra fragment	large mammal	
196	left femur	Castor canadensis	adult
197	fish jaw frag.	Esox lucius	
237	long bone frags.	large mammal	burnt
246	phalanx frags.	medium mammal	
252	skull frags.	sm./med. mammal	
261	skull frags.	medium mammal	
271	skull frags.	sm./med. mammal	
274	right lower jaw frag.	Esox lucius	associated with 275
275	right lower jaw frag.	Esox lucius	
276	rib	large mammal	
277	distal end of right tibia	Alces alces	adult

Catalogue No.	Description	Identification	Comments
278	right lower jaw	Esox lucius	
279	rib fragment	large mammal	
282	long bone frag.	medium mammal	
283	long bone frag.	med./lge. mammal	
288	skull fragments	sm./med. mammal	
301	long bone frags.	med./lge. mammal	
322	distal end of tibia	Gavia immer	
323	long bone frag.	bird?	
325	left coracoid	(sub-family) Anatinae	
326	right coracoid	Gavia immer	
333	skull fragments	medium mammal	
336	distal end of humerus	large mammal	
337	rib (?) fragment	med./lge. mammal	
339	metacarpus frag.	Gavia immer	burnt
350	long bone frags.	medium mammal	
351	misc. fragments	sm./med. mammal	
365	unid. fragments	med./lge. mammal	burnt
371	jaw fragment	Esox lucius	
372	jaw fragment	Esox lucius	
373	jaw fragment	Esox lucius	
374	upper jaw frag.	Esox lucius	
375	upper jaw frag.	Esox lucius	
376	jaw fragment	Esox lucius	
377	jaw fragment	Esox lucius	
403	sesamoid frag.	large mammal	
424	long bone frags.	medium mammal	
435	long bone frags.	medium mammal	
441	long bone frag.	large mammal	
471	epiphysis	medium mammal	
507	long bone frags.	sm./med. mammal	
512	anterior rib frag.	Castor canadensis	
536	skull frags.	medium mammal	
539	skull frags.	medium mammal	
540	skull frags.	medium mammal	
541	skull frags.	medium mammal	
543	skull frags.	medium mammal	
557	skull frags.	med./lge. mammal	
562	long bone frag.	large mammal	
572	skull frags.	sm./med. mammal	
690	incisor tooth	Alces alces	adult
693	epiphysis	med./lge. mammal	
695	skull frags.	med./lge. mammal	
709	ulna	Castor canadensis	sub-adult
710	molar/premolars	Castor canadensis	sub-adult

Catalogue No.	Description	Identification	Comments
768	lower portion of skull including 7 upper teeth	*Castor canadensis*	sub-adult
769	long bone frag.	large mammal	
782	long bone frags.	med./lge. mammal	
785	phalanx frag.	medium mammal	distal end
788	phalanx frag.	medium mammal	proximal end
858	sesamoid	*Alces alces*	
897	long bone frags.	sm./med. mammal	
898	phalanx frag.	medium mammal	proximal
899-906	radius frags.	*Alces alces*	adult
907	rib fragments	med./lge. mammal	
912	vertebra frags.	medium mammal	
922	rib fragments	large mammal	
923	skull fragments	medium mammal	
925	vertebra frag.	large mammal	
926	rib fragment	large mammal	
929	femur	*Ursus americanus*	adult
930	unid. fragment	large mammal	
931	lumbar vertebra	large mammal	
932	lumbar vertebra	large mammal	associated with 933
933	vertebra frag.	large mammal	
934	unid. fragment	large mammal	
935	vertebra frag.	large mammal	
936	unid. fragment	large mammal	
962	skull fragment	medium mammal	
975	misc. fragments	sm./med. mammal	
976	metatarsus	medium mammal	
982	misc. fragments	med./lge. mammal	
985	skull frags.	medium mammal	
986	rib fragment	medium mammal	
990	phalanx frags.	medium mammal	
1003	misc. fragments	large mammal	
1081	skull frags.	large mammal	
1091	pelvic fragment	large mammal	associated with 1098
1098	pelvic fragment	large mammal	
1125	left carpal	*Alces alces*	adult

MINIMUM NUMBER OF INDIVIDUALS AND POUNDS OF USABLE MEAT

Seven animals were identified: two large mammals, two medium mammals, two birds and one species of fish. With reference only to the skeletal remains, the very minimum number of individuals per species present are one moose, one bear, two beavers (one adult and one sub-adult), one fisher, one Common Loon, one duck (identified only to sub-family), and two Northern Pike.

However, when the site areas are taken into account, the number of individuals increases. Area C included a minimum of one moose, two beavers, and one fisher. Area A had two moose, one bear and two Northern Pike. This left Area B with two moose, two beavers, two Common Loons, one duck and two Northern Pike. However, due to the close proximity and approximately the same depth below surface, the two moose listed for Area B are assumed to be part of the remains of the two moose from Area A. Therefore, the minimum number of individuals per species for the site in general increased to three moose, one bear, four beavers, one fisher, two Common Loons, one duck and four Northern Pike. This last statement should be regarded as the actual minimum number of individuals per species for HcLx-1.

As far as the usable meat per species is concerned there is no change in order of importance between the two calculations of the minimum number of individuals per species. The order in both cases (from most important to least important) is moose, bear, beaver, Northern Pike, Common Loon, fisher and duck. However, usable meat does not necessarily mean that they were eaten, as will be discussed below. The total usable meat increased from 325 kg to 733 kg when consideration is given to the horizontal distribution. Moose increases from 55.9% to 74.2% of the usable meat, while bear decreases

from 29.3% to 13.0%. The remaining species show very little change in percentage. In both cases, approximately 96% of the usable meat is derived from moose, bear and beaver.

The usable meat ratio for each area follows the same pattern. For example, if moose occurs, as it does in Area C, it constitutes the highest percentage of usable meat and so on down the list.

IDENTIFIABLE SKELETAL ELEMENTS

At the outset there is sufficient variability in the kinds of skeletal elements identified for moose to hypothesize that the entire carcass was brought to the site. Equivalent statements seem appropriate for beaver and most of the general categories, such as medium mammal, large mammals, etc. Two of the mammalian species, however, are only represented by one bone each. Black bear was identified from one femur and no determination is made as to whether it was killed and/or butchered at the site or elsewhere. Fisher, on the other hand, was identified from an astragalus which makes it possible that it was not eaten but rather trapped for its fur. In order to have less weight to carry to camp, the trapper possibly skinned the fisher, leaving the paws intact, and threw the bulk of the carcass away. After returning to camp, the fur was thoroughly prepared and the paws removed and discarded.

The only identified bird bones were a tibia, a metacarpal and two coracoids. Fish remains included upper and lower jaws, cleithrum and other skull fragments.

Number of Individuals and Pounds of Usable Meat per Species

Species	(a) N	(a) %	(a) UM	(a) %	(b) N	(b) %	(b) UM	(b) %
* *Alces alces*	1	11.1	400	55.9	3	18.7	1200	74.2
* *Ursus americanus*	1	11.1	210	29.3	1	6.3	210	13.0
* *Castor canadensis*	2	22.2	77	10.8	4	25.0	154	9.5
** *Esox lucius*	2	22.2	20	2.8	4	25.0	40	2.5
+ *Gavia immer*	1	11.1	4.5	0.6	2	12.5	9	0.6
+ *Martes pennanti*	1	11.1	3	0.4	1	6.3	3	0.2
** *Anatinae* (sp.?)	1	11.1	1.5	0.2	1	6.3	1.5	0.1
TOTALS	9	99.9	716	100	16	100.1	1617.5	100.1

NOTES: N = Number
UM = Usable Meat (in pounds)
(a) Stands for the minimum numbers of individuals with reference only to the bones themselves.
(b) Stands for the minimum numbers of individuals taking the three horizontal culture areas into account.
* Usable Meat Weights for moose, bear, and beaver taken from White (1953)
** Usable Meat Weights for duck and Northern Pike taken from Hanna (1975)
+ Personal approximations of Usable Meat Weights (the average total weight times 50%)

Identifiable Skeletal Elements

I. Mammals

	Incisor	Molar/Premolar	Skull Fragments	Vertebra	Pelvic Fragments	Rib Fragments	Humerus	Radius	Ulna	Femur	Tibia	Metatarsus	Carpal	Astragalus	Sesamoid	Phalanges	Epiphyses	Miscellaneous long bone	Miscellaneous fragments
Alces a.	X							X			X		X		X				
Ursus a.										X									
Castor c.		X	X			X	X		X	X				X					
Martes p.																		X	X
sm./med.			X									X				X	X	X	X
medium			X		X	X											X	X	X
med./lge.			X			X												X	
large			X	X	X	X	X								X				

II. Birds

Gavia immer:	coracoid, tibia, metacarpus	1
Anatinae sp.:	coracoid	1
med./lge.:	miscellaneous fragment	1

III. Fish

Esox lucius: upper and lower jaws, cleithrum, skull fragments

APPENDIX 8

BOTANICAL OBSERVATIONS - LEAF RAPIDS LOCALITY

Generic Class Species	Common Name	Comments
Lichens		
Peltigera aphthosa	Spotted peltiger	edible
Cladonia rangiferina	Reindeer moss	edible
Cladonia alestris	Reindeer moss	edible
Marchantia	Marchantia	
Mosses		
Sphagnum capillaceum	Acute leaf sphagnum	
Sphagnum squarrosum	Squarrose sphagnum	
Polytrichum commune	Hair-cap moss	
Dicranum scoparium	Broom moss	
Pohlia nutans	Nodding pohlia	
Minium affine	Toothed minium	
Hypnum crista-castrensis	Plum moss	
Thuidium delicatulum	Fern moss	
Horsetails		
Equisetum arvense	Field horsetail	
Equisetum sylvaticum	Woodland horsetail	
Clubmosses		
Lycopodium obscurum	Ground-pine	
Lycopodium complanatum	Ground-cedar	
Lycopodium annotinum	Bristly clubmoss	
Lycopodium clavatum	Running clubmoss	
Ferns		
Woodsia ilvensis	Rusty fern	
Polypodium virginianum	Polypody fern	
Seed-Plants		
Juniperus communis	Dwarf juniper	
Agrophyron repens	Couch grass	
Elymus innovatus	Fuzzy wild rye	

Generic Class Species	Common Name	Comments
Calamagrostis canadensis	Blue-joint	
Oryzopsis pungens	Slender mountain grass	
Eriophorum spissum	Tufted bog cotton	
Carex brunnescens	Brownish sedge	
Smilacina trifolia	Threeleaf smilacina	
Maianthemum canadense	Canada maianthemum	
Sisyrinchium montanum	Blue-eyed grass	
Cypripedium calceolus	Yellow lady-slipper	
Habenaria obtusata	Oneleaf habenaria	
Habenaria hyperborea	Northern habenaria	
Goodyera repens	Rattlesnake plantain	
Corallorhiza trifida	Early coral-root	
Myrica gale	Sweet gale	
Betula glandulosa	Dwarf birch	
Alnus crispa	Green alder	
Urtica procera	Stinging nettle	
Geocaulon lividum	Northern comandra	
Chenopodium album	Lamb's quarters	edible
Polygonum cilinode	Fringed bindweed	
Caltha palustris	Marsh-marigold	
Anemone patens	Prairie crocus	
Actaea rubra	Red baneberry	
Corydalis sempervirens	Pale corydalis	
Drosera rotundifolia	Roundleaf sundew	
Ribes oxyacanthoides	Northern gooseberry	edible
Ribes lacustre	Bristly currant	edible
Ribes glandulosum	Skunk currant	
Ribes americanum	American currant	
Ribes triste	Bitter currant	
Mitella nuda	Naked mitterwort	very common
Amelanchier alnifolia	Running service berry	
Fragaria virginiana	Wild strawberry	
Potentilla palustris	Marsh cinquefoil	
Potentilla tridentata	Threetooth cinquefoil	
Geum aleppicum	Yellow avens	
Rubus chamaemorus	Cloudberry	edible
Rubus acaulis	Stemless raspberry	
Rubus pedatus	Dwarf raspberry	
Rubus idaeus var. aculeatissimus	Wild red raspberry	edible
Rosa acicularis	Prickly rose	
Vicia americana	American vetch	
Lathyrus ochroleucus	Creamy peavine	
Geranium bicknellii	Bicknell geranium	
Empetrum nigrum	Black crowberry	edible

Generic Class Species	Common Name	Comments
Viola pallens	Northern white violet	
Shepherdia canadensis	Buffalo berry	
Epilobium angustifolium	Fireweed	
Aralia nudicaulis	Sarsaparilla	
Cornus canadensis	Bunchberry	very common
Pyrola virens	Green pyrola	
Pyrola secunda	One-sided pyrola	
Kalmia polifolia	Bog laurel	
Ledum groenlandicum	Labrador tea	edible
Andromeda polifolia	Bog rosemary	
Chamaedaphne calyculata	Leather leaf	
Arctostaphylos uva-ursi	Bear berry	edible
Vaccinium myrtilloides	Sour-tooth blueberry	
Vaccinium vitis-idaea	Cowberry, moose berry	edible
Oxycoccus microcarpus	Small cranberry	edible
Trientalis borealis	Star flower	
Menyanthes trifoliata	Bogbean	
Halenia deflexa	Spurred gentian	
Apocynum androsaemifolium	Spreading dogbane	
Mertensia paniculata	Tall lungwort	very common
Mentha arvensis	Wild mint	edible (tea)
Lycopus uniflorus	Northern bugleweed	
Galium boreale	Northern bedstraw	
Galium triflorum	Threeflower bed straw	
Linnaea borealis	Twinflower	
Viburnum edule	Squashberry	
Viburnum trilobum	Highbush cranberry	rare this far north - edible
Solidago canadensis	Canada goldenrod	
Aster ciliolatus	Lindsay's aster	very common
Antennaria neodioica		
Achillea millefolium	Common yarrow	
Petasites palmatus	Sweet petasites	